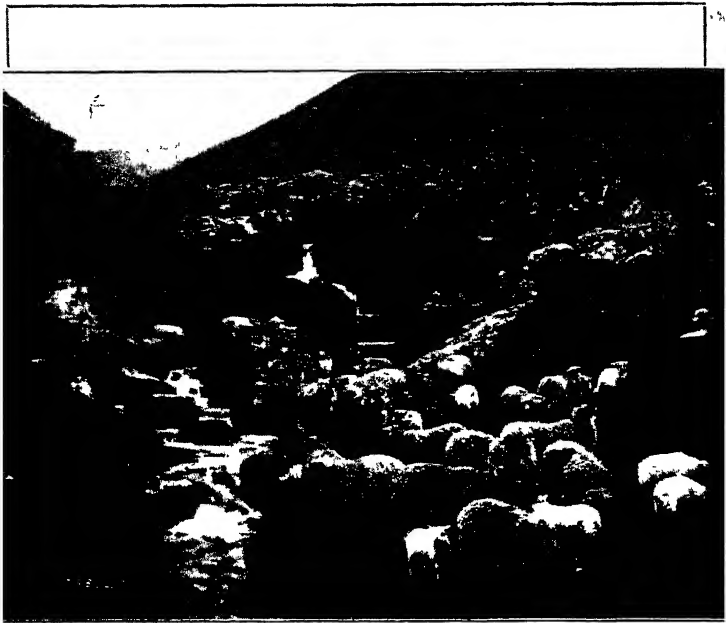




AGRICULTURAL RESEARCH INSTITUTE
PUSA



HIGHLAND SHEEP AT HOME Photo by Reid

THE PRESENTATION of this photo-engraving as a frontispiece is meant to be a tribute to the talent of Mr. Chas. Reid, of Wishaw, Scotland, whose work in this direction has shown the degree to which animal photography may be made both artistic and instructive. The sustained merit of the work which he had done has pointed the way to gratifying results, and the outcome has just recently made it possible to illustrate a book of this kind with all the types and qualities shown as they are, through the agency of photographs made by him and such artists as Schreiber of Philadelphia, Hills of Ohio, and Brown of Scotland. In addition to the clearness of detail in this reproduction of some Highland sheep, note the beauty of the mountain stream with the old water wheel at the side of it, the naturalness of the sheep, the watchful pose of the dog, guardlike in position, with the shepherds resting at the foot of the trees and all in the foreground of the rolling hills suggested beyond.

JUDGING LIVE STOCK

By JOHN A. CRAIG

Formerly
Editor Canadian Live Stock Journal
Professor Animal Husbandry, University of Wisconsin
Professor Animal Husbandry and Vice Director
Iowa Agricultural College
Dean and Director Texas Agricultural and
Mechanical College
Director Oklahoma Agricultural Experiment Station

11998/36

TWENTY-SIXTH EDITION

Published by

THE ESTATE OF THE AUTHOR

11998/36

LARI

COPYRIGHTED 1901

BY

JOHN A. CRAIG

SET UP AND ELECTROTYPED, JANUARY 1901
REPRINTED, SECOND EDITION, MARCH, 1901
REPRINTED, THIRD EDITION, APRIL, 1901
REPRINTED, FOURTH EDITION, JANUARY 1902
REPRINTED, FIFTH EDITION, OCTOBER, 1902
REPRINTED, SIXTH EDITION, AUGUST, 1904
REPRINTED, SEVENTH EDITION, FEBRUARY 1905
REPRINTED, EIGHTH EDITION, FEBRUARY, 1906
REPRINTED, NINTH EDITION, JANUARY 1907
REPRINTED, TENTH EDITION, JANUARY, 1908
REPRINTED, ELEVENTH EDITION, APRIL, 1908
REPRINTED, TWELFTH EDITION, OCTOBER, 1908
REPRINTED, THIRTEENTH EDITION, JUNE, 1909
REPRINTED, FOURTEENTH EDITION, DEC., 1909
REPRINTED, FIFTEENTH EDITION, OCT., 1910
REPRINTED, SIXTEENTH EDITION, JAN, 1911
REPRINTED, SEVENTEENTH EDITION, AUG., 1911
REPRINTED, EIGHTEENTH EDITION, DEC., 1911
REPRINTED, NINETEENTH EDITION, JAN, 1913
REPRINTED, TWENTIETH, EDITION, APRIL, 1913
REPRINTED, TWENTY-FIRST EDITION, JULY, 1913
REPRINTED, TWENTY-SECOND EDITION, DEC., 1913
REPRINTED TWENTY-THIRD EDITION, JAN., 1914
REPRINTED TWENTY-FOURTH EDITION NOV. 1914
REPRINTED, TWENTY-FIFTH EDITION, MAY, 1916
REPRINTED TWENTY-SIXTH EDITION, DEC, 1917

Printed by
THE KENYON COMPANY
Des Moines, Iowa

Introduction.

IN JUDGING LIVE STOCK there are two faculties which seem to require special development—observation and judgment.

The eye must see quickly and accurately, so that there may be no mistake in the observations which are to form the basis for a conclusion. While this is to a considerable extent dependent on being informed on what to look for,

Beauty is bought by
judgment of the eye.
—*Shakespeare.*

yet no amount of information will supply keen powers of observation, which in addition, must be kept in practice by continuous use. The student should never be dilatory in this, for once allow it to be said that he sees a thing which he does not, the foundation for candid criticism is being built on sand. It is better to be "simpler than the infancy of truth" and completely candid with one's observations than to be in the least deceptive or dilatory in recording them.

Not only should one be quick to see things as they really are but there should be as much dispatch in detecting deviations from the correct standard.

What, then, makes a dog beautiful? The possession of the excellence of a dog. And what makes a horse beautiful? The possession of the excellence of a horse. What then, makes a man beautiful? Is it not the possession of the excellence of a man?—*Epictetus.*

There is much difficulty in this for a standard only forms itself clearly in one's mind after the results of experience, observation and study have merged together into a clearly defined ideal. To formulate an ideal is absolutely essential and in doing this it is imperative to familiarize one's self with the good qualities of animal life, correct conformation

No pessimist ever made much in the study of life histories of animals. The student of such had better be an optimist out and out.
—*Samuel Lockwood.*

and the highest types, so that the least variation from these at once attracts the attention. When a distinct ideal, based on the best types and their highest qualities has been formed in the mind, and this is supported by a discriminating eye, it is but another step to render a correct judgment.

In judging the market classes of stock the demands of the market should have a strong influence in the establishment of standards and in the judging of breeding classes the official scales of points, when such exist, should be relied upon chiefly as a

But do thou, I say, simply and fully, choose the better and hold to it. But that which is useful is the better.
—Antoninus.

guide, and when these are not officially published an effort should be made to become informed regarding the understanding that exists among the breeders. While these standards are so wide in scope as to include many minor points, yet it will be noticeable that the essential features are given the greatest prominence and they are usually based on the

No detail is too small to be studied for truth.
—Stevenson.

utility of the animal for its purpose. This does not mean that the minor features should be slighted, for the degree of excellence in domestic animals is now so high and the competition so keen that it is most frequently on some of these minor details that their rank in the show ring is determined.

In show ring judging, after the inspection is completed, a draft or "short leet" is made of the likely winners of place from the rest of the competitors. Up to this time the judging has been the detection of faults and deviations from the standard required, but now the work is more of the nature of comparative judging, in which the points of the animals considered worthy of prizes are compared to determine their rank. It greatly aids dispatch

Reverence the faculty which produces opinion.—Antoninus.

and tends to more exactness to make such a draft when there are five or more animals in the class. It also materially assists the examiner in keeping in mind the qualities which he must compare. Carefulness at this point will do much towards the formation of a decision, which may be afterwards maintained with justice.

CONTENTS

CHAPTER I—JUDGING HORSES.

I.	THE ANATOMY A BASIS OF STUDY.....	5
	The Bones as Levers; Actions of the Muscles; Function of the Nervous System; Temperaments.	7
II.	JUDGING DRAFT HORSES.....	8
	<i>General Examination.</i> —The Contribution of Skeleton and Muscle; Propelling Power Resides in Hind Quarters, Consideration of Condition; Advantage of Weight; Market Value of Weight; Quality with Substance Necessary for Durability; Action; Trotting Action.	
	<i>Structural Examination.</i> —Head; Neck; Shoulder; Chest; Arm; Fore Leg; Knees; Fetlocks; Pasterns; Feet; Body; Loin; Croup; Hock; Scale of Points for Heavy Horses.	
III.	JUDGING LIGHT HORSES.....	21
	<i>General Examination.</i> —Form; Three Classes of Light Horses; The Coach or Carriage Horse; Analysis of Style; The Trotter or Roadster; The Pacer as a Roadster; The Saddle Horse; Quality; Durability Associated with Quality; Action, The Walk; Observing Straightness of the Walk; Manner of Noting Levelness; The High Stepper in Action; The Carriage Horse; Straight and Regular Action; The Driver's Sensation of Action; The Trotter; The Pacing Gait.	
	<i>Structural Examination.</i> —Head; Nostrils; Eyes; Ears; Jaw Bones; Neck; Shoulders; Fore Legs; Arms; Elbows; Fore Arms; Knees; Cannons; Pasterns; Feet; Ribs; Back; Loin; Croup; Thighs; Quarters; Hind Legs; Hocks; Hind Cannons; Hind Pasterns; Hind Feet; Scale of Points for Light Horses.	
IV.	JUDGING HORSES IN THE BREEDING CLASSES.....	45
	Sex Characteristics; Differences in Disposition; Differences in Form; Variation in Features; Relation of Sex Characteristics to Sterility; Relation of Sex Characteristics to Prepotency; The Stallion Classes; Importance of Correct Conformation; Hereditary Diseases; The Mare Classes; Colts and Fillies.	
V.	ESTIMATING THE AGE OF HORSES BY THEIR TEETH.....	51
	Appearance of Incisors; Order of Appearance of Incisors; Disappearance of the Tables.	

VI.	EXAMINATION FOR UNSOUNDNESS.....	53
	A Blemish Different from Unsoundness; Decayed and Worn Teeth; Discharges from the Nostrils; Defective Hearing; Sweenied Shoulders; Capped Elbows; Splints; Ringbones; Sidebones, Quarter Cracks and Sand Cracks; Corns; Thrush and Scratches; Locating Lameness; Thoroughpin; Curb; Bone Spavin; Bog Spavin; Unsound in Wind; Detection of Stable Vices.	
VII.	OFFICIAL STANDARDS FOR HORSES.....	59
	Standard for Trotting and Pacing Horses; Shetland Pony Scale of Points.	
CHAPTER II—JUDGING CATTLE.		
	Method of Examination.....	63
I.	JUDGING BEEF CATTLE.....	63
	Method of Handling; Store Steer; Form of the Feeder; Quality; Inferences from Good Handling; Features of the Head; Neck; Chest; Ribs; Hips; Judging Fat Steers; Handling; Condition; Relation of Parts; Value of Cuts; Scale of Points for Beef Steer.	
II.	JUDGING BEEF STOCK FOR BREEDING PURPOSES.....	73
	Judging Beef Bulls; Judging Beef Cows; Judging Young Beef Stock.	
III.	JUDGING DAIRY CATTLE.....	76
	Dairy Cow's Function; Making of Milk; Function of the Blood; Function of the Udder; Nervous System; The Dairy Form; Skin; Hair; Bone; Head; Neck; Hind Quarters; Hips; Thigh; Escutcheon; Udder; Teats; Milk Veins; Scale of Points for Dairy Cow.	
IV.	JUDGING DAIRY BULLS.....	88
	Purity of Breeding; Uniformity of Breeding; Pedigree Based on Performance; Qualities Associated with Individuality; Judging Calves.	
V.	OFFICIAL STANDARDS OF EXCELLENCE FOR CATTLE.....	90
	Aberdeen Angus; Devon; Red Polled; Holstein-Friesian; Jersey; Guernsey; Dutch Belted; Ayrshire.	
CHAPTER III—JUDGING SHEEP.		
	Method of Examining Sheep; Deception Due to Trimming; Estimating Age by the Teeth.....	107
I.	JUDGING SHEEP FOR MUTTON AND WOOL.....	109
	Feeding Type that Gives the Best Gains; Feeding Type Bringing Most at Maturity; Type Desired by the Butcher; Quality; The Importance of Condition; Judging Condition; Importance of Dressed Weight; Consideration of the Consumer; Qualities of the Fleece; Examining the Fleece; Quantity of Fleece; Density; Length	

of Staple; Quality of Fleece; Softness; Crimp; Soundness; Condition; Purity; Domestic Wool; Territory Wool; Blanket Wool; Lustre; Brightness; Yolk; Domestic Wool; Territory Wool; Blanket Wool; Classification of Wool; Commercial Grades; Scale of Points for Fine Woolled Sheep; Scale of Points for Fat Sheep.

II.	JUDGING SHEEP FOR BREEDING PURPOSES.....	126
	Formation of Types; Value of Breed Type; The Ram; The Ewe; Judging Lambs and Flocks.	
III.	OFFICIAL STANDARD OF EXCELLENCE FOR SHEEP.....	130
	Southdown; Shropshire; Hampshire; Suffolk; Oxford; Cotswold; Wensleydale; Dorset Horn; Cheviot; Delaine, Spanish Merino; Black Top Spanish Merino; Tunis.	

CHAPTER IV—JUDGING SWINE.

I.	JUDGING FAT HOGS.....	145
	Form; Quality; Head; Eyes; Ears; Jowl; Neck; Shoulder; Front Legs; Chest; Sides; Back; Loin; Hips; Rump; Hams; Hind Legs; Scale of Points for Fat Hogs.	
II.	JUDGING BACON HOGS....	152
	Condition; Form; Weight; Shoulder; Side; Scale of Points for Bacon Hogs.	
III.	JUDGING SWINE FOR BREEDING PURPOSES.....	156
	The Boar; The Sow.	
IV.	OFFICIAL STANDARD OF EXCELLENCE FOR SWINE.....	158
	Berkshire; Hampshire; Poland China; Chester White; Duroc-Jersey; Victoria; Cheshire; Yorkshire; Middle White; Small White; Small Yorkshire; Suffolk; Tamworth.	

CHAPTER I.

JUDGING HORSES.

To furnish reasons for many of the points that will be submitted in discussing the types of horses, it becomes necessary to consider the horse as a mechanism in which the bones are levers, the muscles the source of power and the nervous system the stimulator of the muscles.

I. THE ANATOMY A BASIS OF STUDY.

1. **The Bones as Levers.** The three classes of levers are all represented in the anatomy of the horse. The first class may be fittingly illustrated by a pair of scissors; the power is applied at the holes for the fingers, the fulcrum is in the center where the blades are united and the application of the power is at the points. This is the strongest form of leverage and it is employed in the skeleton of the horse by the parts involved in the extension of the limbs.

The lever of the second class may be said to be clearly represented by a wheelbarrow. The power is applied at the handle, the weight is in the center and the application of the power is at the wheel. This leverage in the horse enables it to sleep standing or to stand without feeling much strain. It is in action in such parts as that in the region of the humerus.

The leverage of the third class is represented by a pair of sheep shears. The power is applied at the center, the fulcrum is at one end and the application of the power is at the other. This leverage is not common but it is shown in the action of the lower jaw of the horse. The masseter

muscles of the jaw apply their power to the center of the jaw bone, the fulcrum is at the point where the under jaw joins the head, while the application of the power is at the teeth.

2. Action of the Muscles. In considering the leverage, the attachment of the muscles and their nature are important. As the muscles consist of bundles of fibres, it is easy to understand that when these fibres are long, they possess more elasticity than when they are short. The long muscle with long leverage, added to by length of the bones is more favorable for quick action or speed, while the heavier muscle is more favorable for draft or power. The attachment of the muscles to the skeleton is also an important feature. When the muscles by means of their tendons are attached to prominences, thus enabling them to work some distance from the bones that furnish the leverage, it is easy to see that the action of the muscles would be more effective. Hence, in most joints there are prominences to give the muscles the most favorable attachment.

In this connection it will be interesting to study the proportions of the bones of the skeleton to find reasons for the advantages which are supposed to originate with different proportions. In general we look for short bones in those parts where the function is simply the transmission of power; while we desire greater length in those parts where the muscles, the source of power or speed, are to be found. In the front leg for instance it is desirable to have the distance long from the elbow to the knee, with the proportions showing a much greater distance than from the knee to the fetlock joint for the reason that the distance over which the power travels should be as short as possible that it may be economized and but little of it lost in transmission.

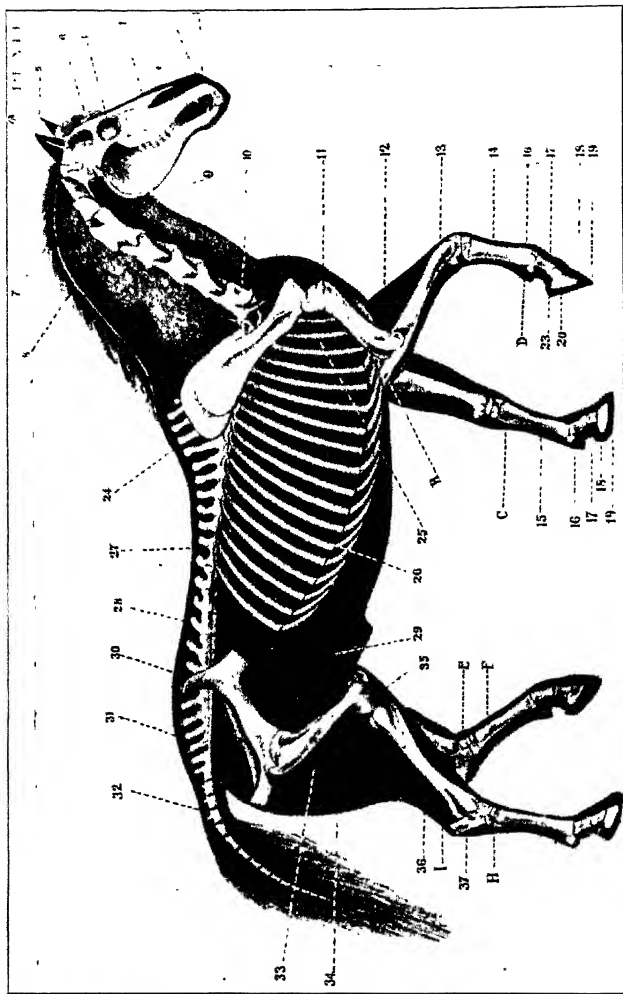
3. Function of the Nervous System. In studying the horse as a mechanism, more than bone and muscle should be included. The stimulation for action comes from the nerve power or force. The nerve power is represented



Ancient and modern schools in stock judging. In early times what was known in regard to the judging of stock had to be garnered under the environment and with the material shown in the upper illustration. Modern facilities and methods are shown in the lower illustration, which is a photograph of the stock judging pavilion at the Iowa State College of Agriculture and Mechanic Arts, with the first class to come together for special instruction in stock judging. Three hundred were in attendance at this school, January, 1901.



1. Face.
2. Nostrils.
3. Eye.
4. Muscle.
5. Ear.
6. Ear.
7. Nostril.
8. Crest.
9. Throatlatch.
10. Shoulder.
11. Arm.
12. Forearm.
13. Knee.
14. Cannon.
15. Tendon.
16. Fetlock.
17. Pastern.
18. Foot.
19. Horn of Foot.
20. Frog of Foot.
21. Sole of Foot.
22. Ball of Foot.
23. Hoof of Foot.
24. Withers.
25. Chest.
26. Rib.
27. Ribs.
28. Loin.
29. Flank.
30. Hip.
31. Croup.
32. Tail.
33. Thigh.
34. Quarter.
35. Stifle.
36. Gaskin or lower thigh.
37. Hock.
- A. Poll Evil.
- B. Capped Elbow.
- C. Windgal.
- D. Bone Spavin.
- E. Bog and Blood Spavin, usually found above this.
- F. Thoroughpin.
- G. Urth.
- H. Urth.
- I. Thoroughpin.



The skeleton of a horse, showing the location of the bones, the degree to which the skeleton and the muscle influence the form and also the location of the various points and common diseases.

h

centrally by the brain and from there it is carried to all parts of the body by the spinal cord through the main channel of the vertebrae, and from this it branches out to stimulate many muscles. The stimulation for action must come from the nerve centers and these consequently have much to do with the quickness and the strength with which a horse may act. It has been determined* in the races of dogs and other animals showing superior speed, that the nerves regulating the heart and lungs have greater power than in the instance of those that are slower. Another authority† who has given this feature special study states that the degree of contraction of the muscle is proportioned to the degree of stimulation. This general statement serves to sustain the position that the horse of strong nervous organization has quicker and more complete control over its muscles than the one deficient in this feature.

4. Temperaments. To the nervous organization, its tone and force, we can largely trace the temperaments that are characteristic of horses. The horse of nervous temperament expresses the fact by being a willing and enduring worker in its sphere; while the horse of lymphatic temperament seemingly lacks zest in its labors for the want of tone in its nervous system. The bilious temperament reflects itself in a bad temper and springs chiefly from the condition of the body; while the sanguine temperament, resulting from apparently opposite conditions, finds expression in a disposition that is kind and willing. In this connection it should be stated that the term nervous temperament is not used in the sense in which it is commonly accepted, namely a lack of nervous control; for such a condition usually results in an irritable and erratic temperament which is devoid of results as expressed in work.

*Mills, Comparative Physiology, page 213.

†Smith, Physiology of Animals, page 721.

II. JUDGING DRAFT HORSES.

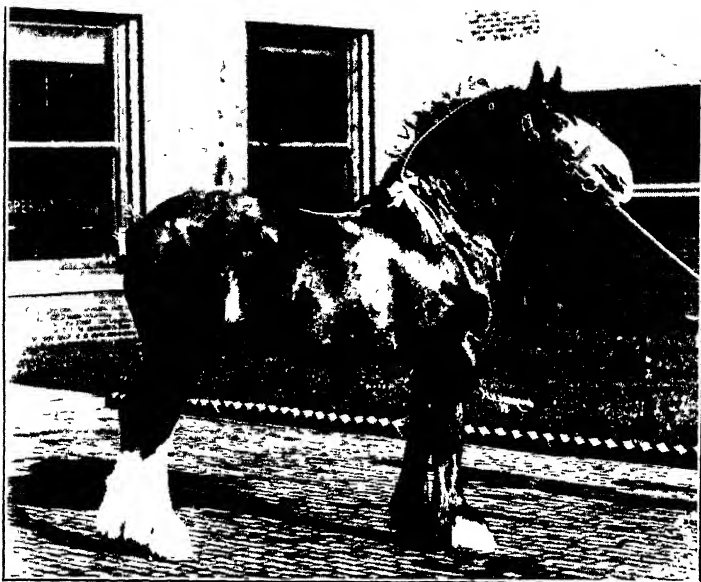
I. General Examination.

In the general examination of horses, the form, quality and action are the chief features requiring consideration. This examination takes in the horse as a whole, while the structural examination requires detailed criticism of each part independent of others.

5. Form—The Contribution of Skeleton and Muscle. To be able to accurately estimate the form of a horse, it is necessary to understand the extent to which the form is due to the skeleton and how much of it depends on the muscular development.

A comparison of a skeleton of a horse with a living and well developed animal will show clearly that some parts owe their form to the framework of bone, while other regions are shaped wholly by the muscle. Beginning at the head, it will be noticed that the form of it is determined almost altogether by the bones that comprise it. The outlines of the neck, however, are just as distinctly due to the muscular development of that region. The shoulder and chest are outlined in form chiefly by the skeleton though smoothened with muscle. The shape of the leg from the knee upwards to the body is determined by muscles of that region, while from the knee to the fetlock the outline is due largely to the tendons that make the leg at this point appear flat from the side. The common supposition is that the leg appears flat from the side view because the bone is flat, but the fact is the flat appearance is due to the degree to which the tendons stand back from the bone.

6. Propelling Power Resides in Hind Quarters. A study of the degree to which the skeleton and the muscular development contribute to the form of a horse, brings into prominence the idea that most of the power resides in the hind parts. The fact that the greatest muscular development is in that region would indicate this.



Clydesdale Stallion, FVIE BARON, champion of the breed at International Live Stock Exposition, Chicago, 1913. Owned by Cunningham Bros., Wilkesbarre, Pa.

DESCRIPTION OF THE CLYDESDALE HORSE.

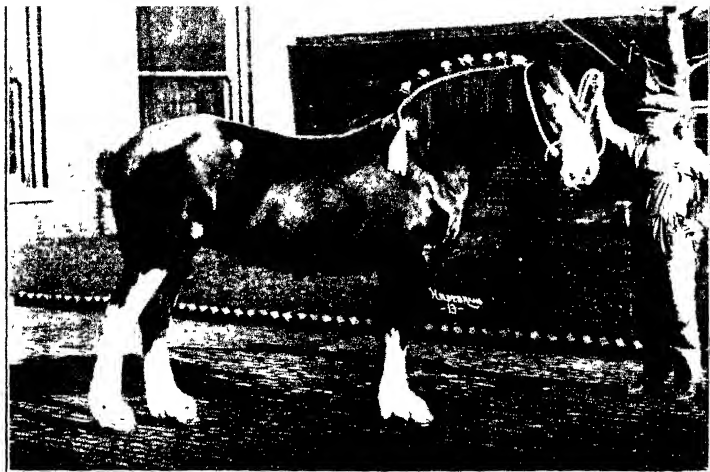
THE representatives of this breed of Scotch draft horses are usually bay, brown, black or chestnut in color, with white markings. In conformation, the leading characteristics sought are the possession of weight with quality and action. While the adherents of the breed recognize the value of weight yet they always associate with it quality of structure with superior mechanical action, and in judging a class of horses of this breed these features should have equal prominence. The head in the typical Clydesdale, though sometimes out of proportion to the other parts, is usually possessed of intelligent features. To secure the action desired the shoulders must be sloping so as to permit a free and long stride in the walk and trot; the arm must necessarily be full muscled, legs fluted and flat with a fine feather springing from the edge. The pasterns which have received much attention in the formation of this breed, should be decidedly sloping, the hoof head or top of the foot should be large, and no amount of fine feather or excellence of pastern should be allowed to overbalance the necessity of a good sized foot, correctly shaped and of splendid wearing texture. The back should be short and, though seemingly low from the extra style secured by high carriage of head, should never be weak, which is prevented by shortness in this part, and with an easy rising and full coupled loin running smoothly into a strong croup. The quarters should be well muscled and the hind legs in addition to having every evidence of quality should be properly set, meaning thereby that they stand close and the parts have correct proportion in relation to each other. In no case should style be allowed to supplant essential draft qualities, as it would be a fault of judgment to permit high carriage and flashy action to attain prominence over a deep middle, strong coupling in association with properly set limbs, as the source of Clydesdale popularity is the degree to which they combine the many essentials of a draft horse with activity.



Suffolk stallion, RENDESHAM CUPBEARER. First at the Royal Agricultural Society Show, 1899.

DESCRIPTION OF THE SUFFOLK PUNCH HORSE.

THIS BRITISH breed of draft horses is exceptionally uniform in type, owing to the fact that they have been long established and have been carefully bred for this feature. They are chestnut in color and the best representatives in form show a type that is low set, short legged and deep bodied. Considering the average weight of the breed they show an unusual amount of this to be due to the extreme development of muscle. The bone is most frequently of a high quality and the limbs clean cut in every feature, while feet of durable texture are among their common attributes. They have a well established reputation for being docile in temperament, easy keepers, steady when working, and activity is a leading quality of the breed. Desirable weight is sometimes absent in its representatives and frequently when this is ample it is secured by abnormal fatness rather than by general massiveness. While the fact that their qualities, chiefly activity and durability, especially adapt them for general farm work of lighter draft purposes, yet the importance of the other essential and draft qualities, especially weight should not be overlooked by the judge in the show ring.



Clydesdale Mare, HARVIESTOWN BARRONESS, champion mare of the breed at the International Live Stock Exposition, Chicago, 1913. Owned by R. A. Fairbairn, Westfield, N. J.



Clydesdale gelding SENSATION. In 1896 this horse was champion gelding of Scotland and then weighed 2184 pounds when shown by Mr. William Clark of Netherlea, Scotland, who paid \$600 for him. After working during the intervening time on the streets of Liverpool, he was shown at Chicago at the International Exposition in December, 1900, where he won a \$100 special for the best aged gelding in harness. Photo taken December, 1900. This horse was bred by Mr. John Crawford, of Scotland and he was sired by the Darnley horse Gartsherrie (2800).



The imported Percheron stallion HAUTOBOIS, winner in aged class at the International Exposition in 1911. Shown by McLaughlin Bros, Columbus, Ohio.

DESCRIPTION OF THE PERCHERON HORSE.

IN THE establishment of this French breed of draft horses the guiding ideal has been to develop an active and durable type of draft horses suited for drawing loads at a rapid pace. The degree to which weight is desirable in the modern draft horse has resulted in the production of a heavier type with these characteristics yet in evidence. The modern type of this breed is short legged, compactly and stoutly built. The representatives which best exemplify the type show an active temperament, intelligent heads, short, full crested necks, with deep body and wide croup. To meet the requirements of their patrons they must possess with this abundance of quality, attractive style and active movement. The modern type shows a difference from the original in being black in color and somewhat closer to the ground than those first imported. The original gray Percheron had for its peculiar characteristics an unusual combination of strength and free action with style and endurance. They had an abundance of style, with round bodies and an exceptional quality of bone. The highest type of this breed in the present show rings should be typical of an active draft horse with the quality and the substance to justify durability. To serve this purpose to the fullest extent the necessity of regular and straight action with properly set limbs should not be a secondary consideration in any show ring, and in the mind of the judge no amount of flashy action and toppiness should be allowed to overbalance these features. The weight that is necessary in representatives of this breed should be made up of a desirable quality of bone with muscle in those parts where real strength resides and not by a development in regions that have little to do with pulling power.

It will be noticed that the form of the loin, the shape of the croup, the fullness of the thigh and quarters are due in the greatest degree to the extra development of muscle in these parts. The front quarter of the horse is bare of muscle in comparison with the hind quarter.

Another reason for accepting this theory is the difference in the manner of the attachment of the fore legs to the body, compared to that of the hind legs. The shoulder blade is loosely attached to the trunk while the hind leg connects with the body through the agency of an unusually strong ball and socket joint. The shoulder blade plays loosely, seemingly for the purpose of lessening the concussion the leg receives from contact with the ground, while the hind legs in their connection with the pelvis make a joint that is the most powerful of the body.

7. Consideration of Condition. In examining draft horses it is well to remember that defects that are often apparent to the eye in the instance of light horses, require more careful observation to detect them in heavy horses. The defects are usually harder to see owing to the degree to which the horses may be pampered. Draft horses may be fed to such a high condition and in this way so "veneered" that it becomes a very hard matter to detect the structural defects. A horse in lean serviceable condition will often show many defects especially in the body that a thick covering of fat would hide. In judging draft horses it is necessary to observe the greatest precaution so as not to mistake such padding with fat for development of muscle.

8. Form—Massive, Broad, Deep. In form the draft horse should be broad, square, close to the ground and well proportioned. It is necessary to remember that power rather than speed should be the outcome of the effort of a draft horse. It is evident that the size of the muscle has more to do with power, while the length of the muscle

is indicative principally of speed. There is a combination of power and speed which is desirable to secure in the draft horse but as in all things opposed to each other it is impossible to secure the highest development of both in the same individual. It has been stated by a writer on this subject* that in the instance of animals of short bones, slight angularity and short muscles, the conditions are most favorable for drawing heavy loads, and animals with long bones, long muscles and slightly angular joints are especially adapted for speed.

9. Advantage of Weight. In considering the form, weight should be given a high valuation, for a horse that does not weigh at least 1,500 pounds should not be considered a draft horse. In addition, this weight must be the outcome of strong bone, heavy muscles and large proportions and not have its origin in excessive fatness. As to the importance of weight it may be illustrated best by citing what is said to be the first experience that inventors had with the locomotive. When this was being perfected before its introduction as a means of transportation, it is stated that a small model of a locomotive with the necessary track arrangement was used by those desiring to bring it into practical use. It was found in the model that the wheels would not adhere to the track but would spin around and waste the power. Considerable study was given to the best means of overcoming this difficulty. It was thought that the wheels should have cogs and the track furnished in the same way but a better plan was happened upon by accident. The inventor having a small load in form of bags to take over the track, instead of putting it in the car of the model train threw them across the locomotive and when steam was generated the train started without any of the difficulties that had been before observed. He found through this that the locomotive to exert its power to the best advantage should have a proportionate weight and it ultimately assisted in the per-

*Smith, *Physiology of Domestic Animals*, page 756.



The illustration on the right hand shows a deficient fore leg for a draft horse, as it lacks muscle, with straight, coarse pastern and shelly feet. The shoulder is also too straight and the legs very deficient in quality, as the hair is coarse and wiry, which may be noted by comparison with the one on the left. The latter shows good feet, sloping pasterns, strongly supported knee, rather weak fore arm, and moderately sloping shoulder.



Percheron mare CASTILE 78956 (64553.) Champion Percheron mare at the International Exposition in 1911. Shown by Dunhams Wayne, Ill.



Shire Stallion, ROWINGTON DRAY KING, champion of breed at English Royal Show in 1913. Photo by Parsons.

DESCRIPTION OF THE SHIRE HORSE.

AMONG the representatives of this long established breed of English draft horse the most desirable form is low, broad and massive. Weight is considered a leading feature and so with this we must associate the attributes of being heavily built, muscular, with large bone and rather slow movement. Strength of shoulder has been preferable to slope, which has probably given power in the collar but detracted from the freedom and length of the stride. The body of the best representatives is of exceptional merit, being large in girth, deep, strongly coupled with broad, short back and heavily muscled quarters. Their points of excellence are undoubtedly exceptional weight, made up of heavy bone, full muscular development, with width and depth of form; associated with these qualities there are kindred deficiencies which are sometimes in evidence, meaning thereby a lack in general quality, coupled with a sluggish temperament. The superior consideration which has been given to weight has frequently overbalanced the claims of action, consequently while showing to excellent advantage standing there are some which fail to sustain their merit when their action is shown. A lack of quality in a draft horse must necessarily be discountenanced for durability depends on this and also on the set of the limbs.

fection of the locomotive. The same principle attached itself to the draft horse as a motor. It has been further illustrated in this way—a driver with a rather light horse was trying to take a cartload of grain up a hill, the horse tried several times to accomplish it but would only get partly up the hill when the load would draw him back. After studying the matter the driver took some bags out of the cart and put them on the horse and accomplished his object. The same principle is applied as in the instance of the locomotive. He had added just so much to the weight of the horse and this enabled him to overcome in a degree the weight of the load. The factor of weight is not only of value in matter of work but this is also observable as an influence in the general market.

10. Market Value of Weight. Arranging the sales reported by a leading firm of Chicago, during 1893, according to the weight of the horses sold, it will be seen that the variation in price is in accordance with the weight of the horse, as follows:

Average Weight.	Average Price.
1400	\$155.87
1450	159.15
1500	169.15
1550	176.56
1600	176.62
1650	208.64
1700	212.89
1750	236.14
1800	258.33

It will be noticed that there is a constant increase in the prices from the lighter to the heavier weight and this factor of weight seems to be so marked as to dominate all other merits. The weight increasing from 1,400 to 1,800 pounds advanced the price about \$100, which means that the added weight within this range was worth about 25 cents per pound on the general market.

11. Quality with Substance Necessary for Durability. Of all desirable features to be sought in a draft horse that of strong, clean and firm bone is one of the most important.

The leg below the cannon should be flat, the bone should feel firm and the tendons should stand out distinctly from the bone. There should be such a feeling about the bone of the legs as to warrant the assumption that it is of a fine, firm texture. If you will compare the texture of a piece of hickory wood with that of tamarac or larch, which differ markedly in their relative strength, the difference which exists in the bone of horses will be made clear. Although a horse has never been known to break its leg in this region by severe exertion yet the importance of strength of bone in these parts is of high value, not simply because of its wearing quality but also largely for what it indicates. It will be found that in the instance of a horse that has what is generally known as flat, clean bone with hard defined joints, its endurance is double that of a horse showing the opposite quality. In those breeds which have hair on their legs or "feather" as it is sometimes called, the quality of the hair is an index to the nature of the bone. Coarse, porous bone, and coarse skin are associated and the latter gives rise to coarse hair; while on the other hand fine, silky hair is accepted as an indication that the bone is of close and hard texture. The mistake sometimes made of considering small bone a characteristic of quality should be guarded against as this is a very detrimental feature in a draft horse. In heavy horses the important consideration is to secure as close a combination as possible of quality with substance and weight.

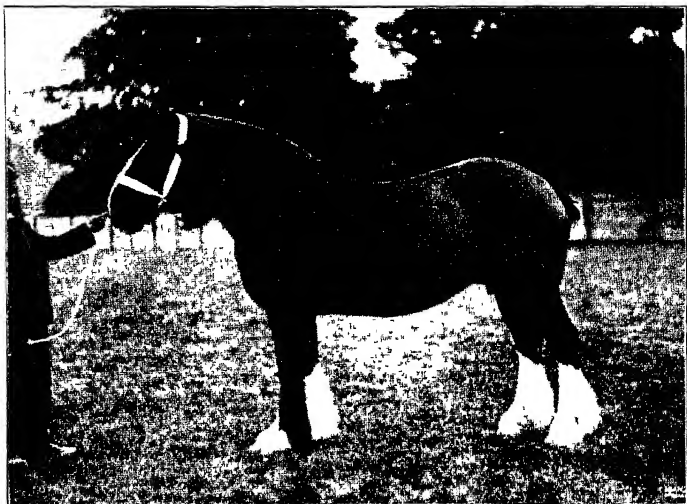
12. Action—Straight, Regular. The common working pace of the draft horse is the walk and for this reason it deserves prominence. In its sphere the draft horse is only at times urged beyond a walk so that it becomes a very important attribute of this horse to be a good walker. In criticising the walk of a draft horse, the action should be noted from three points of view—before, behind and from the side. In approaching, the horse should carry his head high and the stride should be regular. The feet should be lifted clear of the ground and placed down evenly as if in



A Champion Belgian Stallion, shown by Crouch Bros, Lafayette, Ind

DESCRIPTION OF THE BELGIAN HORSE.

Though a product of the art of the horse breeders of Belgium in more recent times, this breed is quite uniform in build and strong in ability to stamp its characters on mares of other or no particular lines of breeding. The type popular in America is more upstanding and has more quality in legs and points than that preferred in Belgium, where bulk and compactness of body conformation are prized even at what seems to be the expense of quality in underpinning, from an American view point. The Belgian is of a very quiet disposition.



Shire mare, HENDRIE CROWN PRINCESS, first in 1898 and first and reserve champion Royal Agricultural Society Show, 1899. Sold for \$5,500 at Lord Wantage's auction sale.



A pasture scene at Gregory Farm, White Hall, Ill.

deliberation. From the side it may be noted if the hind and fore legs work in unison. Horses with short backs and long underlines present the best view from the side while in action but on the other hand those with long backs and weak loins usually drag their legs in a slovenly way. Viewed from behind the action of the hock should be carefully noted. The flexion in this region should be free and straight. It is a common weakness of the hocks to be turned outward when raised, but more frequently the hocks are bent in too much and the feet thrown out of line. As a rule the stride should not be too long but well balanced with a movement quick and elastic.

13. Trotting Action. The ability to trot well is not generally considered a valuable attribute for a draft horse, as it is claimed that to walk well is a much more useful achievement. Good trotting action, however, is not only valuable in itself but it also brings with it many other qualities such as activity, style, balance of conformation and other features that are desirable in any class of horses. The draft horse in trotting should go level, straight and regular, for any deviation from these qualities are usually evidences of unsoundness or the absence of a balanced conformation. The legs, both fore and hind, should flex freely at the hocks and knees, for a rigidity of movement of these is indicative of defects of some kind. A stilted hock action is much too common in draft horses and is very often due to the fact that the hock is not properly set as may be observed in all hind legs that are too straight. Such are usually lacking in reach and power.

II. Structural Examination.

14. Head—Lean, Medium Size. Coarseness of the head is a prevalent fault. While it should be of only medium size there should be sufficient breadth between the eyes and the face lines should be clearly defined with the total length of the head proportionate to the rest of the body. It should be well set on the neck and carried gracefully.

The nostrils should be large and of a healthy color. An examination of the mouth, though usually made to estimate the age, should include inspection for the most frequent defects in this region which, in heavy horses are parrot mouth or overshot mouth and troubles of the teeth. The eye should be bright, full and mild with no appearance of film to interfere with the vision. In looking at the eye it is well to remember that the natural shape of the pupil is elliptical, while a spherical form indicates blindness or impaired vision. Haziness of the eye, one being smaller than the other or a wrinkled eyelid are indications of ophthalmia.

15. Neck—Strong, Lengthy. The neck should have the appearance of being strong and massive and also of sufficient length and well arched. Undue length of neck especially in draft horses is so rare that it may be considered unknown.

16. Shoulders—Sloping, Muscular. While a decidedly upright shoulder may give increased power in the shafts, it must be remembered that it may be in an extreme position in this respect, and if so it forces the step to be short and slow. It is easy to see that a moderately oblique shoulder favors a long, quick step and at the same time it detracts but little from the power. When the shoulder is very upright the concussion upon the feet is increased and hence this conformation is generally associated with sidebones and ringbones. Activity and elasticity of movement, especially in the walk is a desirable feature of the heavy horse and such is very seldom found in connection with an upright shoulder.

17. Chest—Deep, Full. The chest should be deep and comparatively broad giving great volume and lung room. It is best estimated by the girth, which is the body's circumference behind the fore legs. Horses that are slack in that part, are generally of weak constitution without average staying power. Exceptional width in the chest usually

results in rolling and pitching in action, but if the shoulder blades fit snug to the body this is not generally noticeable.

18. Arms—Sloping. The humerus or bone that forms the arm should be short and sloping so as to bring the fore legs properly under the body. In addition it should be well covered with muscle.

19. Fore Legs—Wide, Defined, Fore Arm Large. The fore arm should be large and its prominence should be due to a large bunch of muscle which gives the horse complete control of his legs. It is an especially valuable feature to notice in a draft horse for the reason that it is not as easily padded with fat as the rest of the body.

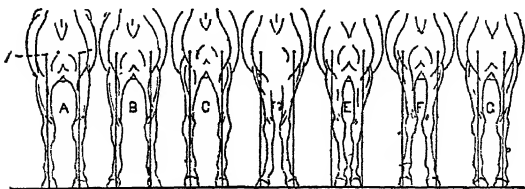
20. Knees—Broad, Defined. A broad, clean knee is important and there should not be the least shrinkage in the breadth below it. The extremities should be lean and the tendons should stand out prominently from the rest of the leg. In Clydesdales and Shires there should be a fringe of fine, silky hair starting from behind the knee and running to the fetlock and this should spring from the edge of the leg. It is well to bear in mind that this "feather" very often gives one a false impression of the width of the leg below the knee. Horses that are coarse about the fetlocks with matted, wiry hair in this region are as a rule more subject to the skin diseases characteristic of these regions.

21. Fetlocks—Clean, Wide. This joint should be clearly defined without any fullness, due to windgalls. In addition it should be wide so as to give favorable attachment to the strong tendons that pass this point.

22. Pasterns—Sloping, Springy. The pastern of the draft horse should be medium in length and it should be critically examined especially in regard to its slope, for this has much to do with the durability of the horse's feet and also has an effect on the animal's action. A glance at the skeleton in this region will show that there are four

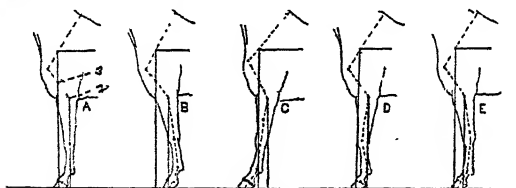
small bones below the fetlock joint. The first one below this joint is the one that forms the pastern and below this there are two others continuing the slope of the pastern; while the fourth is located at the juncture of the two just mentioned. It is evident that it is desirable for the pastern bone to slope at least forty-five degrees, for if it is straighter than this, the concussion given to the foot is not dissipated over all the structures as it should be. A horse putting the foot down (except when severely taxed in draft and then the toe reaches the ground first) receives the concussion on the frog which transmits it to the tendinous tissue padding the heel of the foot. From there it passes to the bones of the foot apparently about the region of the first joint made by the three bones, the navicular, coffin and the coronary, which are admirably arranged in the leg having a sloping pastern to each receive a share of the buffeting. If the pastern is sloping it would seem that only a small part of the concussion is likely to reach the pastern bone and this seemingly would be completely spent before the fetlock joint would be reached. This joint when the pastern slopes properly, swings in a sling of ligaments and tendons and consequently when the parts below slope considerably, it is much more effective in protecting the bones of the leg from the irritation that arises from concussion. It is easy to see why navicular disease, sidebones and ringbones, are most frequently associated with straight pasterns. The concussion from the foot in the straight pastern falls most severely on the first joint formed by the navicular, coffin and coronary bones and consequently it is about this region that these various bone diseases are located. Concussion produces irritation, which continued results in inflammation followed by bony deposits. To give the pastern the proper springiness, a proportionate length should be associated with the slope. The slope, however, is of still more importance than length or

Rules Governing Position of the Limbs of the Horse When Standing.



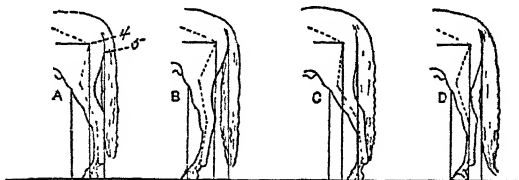
FRONT VIEW OF FORE LIMBS

A vertical line downward from the point of the shoulder should fall upon the center of the knee, cannon, pastern and foot. Cut A of Plate I represents the right conformation. B, C, D, E, F and G represent common defects.



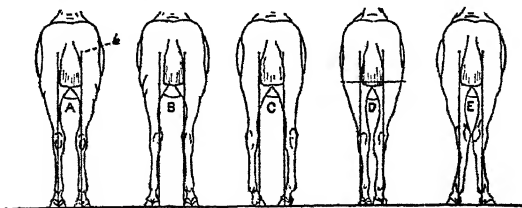
SIDE VIEW OF FORE LIMBS.

A vertical line drawn downward from the center of the elbow joint should fall upon the center of the knee and pastern joints and back of the foot, and a vertical line drawn downward from the middle of the arm should fall upon the center of the foot. Cut A of Plate II represents the right conformation. B, shows the foot placed too far back, C, too far forward, D, "knee sprung" and E, "knock knee."



SIDE VIEW OF HIND LIMBS.

A vertical line drawn downward from the hip joint should fall upon the center of the foot and divide the gaskin in the middle; and a vertical line drawn from the point of the buttock should coincide with the angle of the hock and pastern joints. Cut A of Plate III represents right conformation. B, C and D represent common defects.



REAR VIEW OF HIND LIMBS.

A vertical line drawn downward from the point of the buttock should fall upon the center of the hock, cannon pastern and foot. Cut A of Plate IV represents conformation. B, C, D and E represent common defects.



Group of Percheron stallions. Winners in class, for best five head Percherons at International Live Stock Exposition, 1911. Shown by Crouch & Son, Lafayette, Ind. The horse on the left is IMPREGATOR, champion Percheron stallion at the same show

size. The features of the joints at both ends should be clearly defined, showing that they are completely free from puffiness, sidebones or other diseases or blemishes.

It may be stated here that pasterns that are upright in a mature horse generally become more so with age and the action depreciates in proportion. Such a conformation gives but slight command of the feet and the horse that has it literally forces the feet into the ground or batters them on the hard pavement of the city streets.

23. Feet — Large, Dense, Concave Sole, Large Frog. Diseases and defects of the foot are exceedingly prevalent among heavy horses. As sound feet are rather the exception, and this is an important structure, considerable attention should be directed to it. The foot is made up of three bones. These are covered by a highly sensitive secreting layer. The external surface is made up of the wall, sole and frog. In shape the proper foot is somewhat irregular as the outer quarter running back to the sole curves considerably outward, while the inner quarter is straighter. This shape it will be easily seen not only gives a strong hold upon the ground, but it also decreases the possibility of the inner edge of the foot striking the opposite leg or interfering. In color the foot should be dark and it should have a waxy appearance. The angle formed by the hoof from the ground to the top should be about fifty degrees. One of the parts to be examined most critically is the frog. This should be plump, large and elastic. Just above the frog is what is known as the sensitive frog, which is a mass of blood vessels and nerves and above this again is a fatty frog which acts as a buffer. On top of the latter is the small navicular bone. This bone is enveloped in a very sensitive secreting membrane and if this becomes irritated in the least through concussion resulting from the frog not fulfilling its functions as a buffer then inflammation at once sets in; the fluid for lubricating the joint is not secreted; then follows absorption of the cartilage and finally

disease of the bone which interferes with the function of the joint. These all result in excruciating pain and greatly lessen the horse's utility. Wide, open hoof heads (this has reference to the top of the foot) are very desirable.

24. Body—Short, Broad Back, Deep Ribs. The typical draft horse should stand comparatively high in front. This should not be due to straight shoulders or height of the withers, for when these are high it will generally be found that they are not well covered with muscle. Undue length of the back, very often sunken, is a common defect of draft horses. Another feature to look for in viewing the barrel is the breadth and depth of the ribs. If the body is not round and the ribs well sprung and deep, the chest is likely to be narrow. The volume of the chest behind the withers is an index to the capacity of the lungs, and it is a fact that horses that are light there and short in the hind rib easily become languid and depressed during exertion. The horse with a poorly sprung rib making a shallow barrel and light loin is usually a poor feeder and ill doer.

25. Loin—Thick, Broad. The loin should be thick and broad. If there is a slight elevation over the loin due to an extra development of the muscle it may be considered as indicating strength, though it detracts from the symmetry.

26. Croup—Broad, Muscled. The croup should be broad and thick with muscle. There is considerable difference in draft horses in regard to the slope of the croup. In some it appears as if they had been hit with a board in the hind quarter giving the croup an extreme slope, while in others it runs almost straight. The main factor which adds to the strength of the croup is not the slope of it but the degree to which it is muscled. The slope that runs from the center of the hips to the root of the tail is made by the vertebrae to which some important muscles are attached. The other slope which runs from the sides of the hip joints as seen from the side has perhaps more to do with the favorable application of power in this part, than the slope

that has been first mentioned. It is easy to see that when a muscle is perpendicular to the weight to be lifted the power is applied in the most advantageous way, just the same as when you wish to lift a weight you stand straight over it instead of trying to lift it at arm's length. There seems to be no real reason why the croup should slope so markedly as it does in some strains of horses, as it certainly detracts from their appearance.

27. Thighs—Muscled; Quarters Full. Passing down to the hind leg the thigh should be closely examined for the development of muscle in that region. The quarters should also be observed with the same object in view. There is a vast difference in horses in this respect, and it will sometimes be found that horses very heavily muscled at the croup are very lightly muscled in the quarters. It is a bad defect for a draft horse to be deficient in muscle in the quarters, for it is from these parts that they obtain most of their power to pull.

28. Hock — Wide, Defined, Properly Set. The hock should be closely examined, for in this joint there is likely more work done than in any other single joint of the body. Narrow, tied-in hocks are more subject to curbs than those that are broad. Fleshiness or coarseness about the hocks is very prevalent among draft horses and it is well to examine such closely for bog spavins. The tendons running from the hocks should be large, lean and firm. It is a common defect for a draft horse to be too straight or too crooked in the hock. One that is set properly gives more power. The worst trouble and the most common one to be noted in hocks of draft horses is that of fleshiness or "gumminess," and such are not only more liable to hock troubles, but it indicates coarseness of organization which is not usually associated with durability. In looking at the hock it should appear wide both from in front of the horse and the side, especially so from the latter point of view. The point of the hock should be as sharp as possible and the same may be said of all its features. Some horses

are especially sharp in the prominences of the hock leading some to question their freedom from spavins. This formation is desirable for the reason that it is usually associated with the best quality of bone and tendon and further it gives this region more power because of the more favorable attachment of the tendons that pass these points.

SCALE OF POINTS FOR DRAFT HORSES—GELDING.

GENERAL APPEARANCE:

	Perfect Score
Weight, over 1,500 lbs.; score according to age.....	4
Form, broad, massive, proportioned	4
Quality, bone smooth, hard; tendons lean; skin and hair fine	4
Temperament, energetic, good disposition.....	4

HEAD AND NECK:

Head, lean, medium size.....	1
Muzzle, fine; nostrils large; lips thin, even.....	1
Eyes, full, bright, clear.....	1
Forehead, broad, full.....	1
Ears, medium size, well carried.....	1
Neck, muscled, crest high; throatlatch fine; windpipe large	1

FORE QUARTERS:

Shoulder, sloping, smooth, snug, extending into back	2
Arm, short, thrown back	1
Fore Arm, heavily muscled, long, wide.....	2
Knees, wide, clean cut, straight, deep, strongly supported	2
Cannons, short, lean, wide; sinews large, set back...	2
Fetlocks, wide, straight, strong.....	1
Pasterns, sloping, lengthy, strong	3
Feet, large, even size; horn dense; sole concave; bars strong; frog large, elastic; heel wide, one-half length of toe and vertical to ground.....	8
Legs, viewed in front, a perpendicular line from the point of the shoulder should fall upon the center of the knee, cannon, pastern and foot. From the side, a perpendicular line dropping from the center of the elbow joint should fall upon the center of the knee and pastern joints and back of hoof.....	4

BODY:

Chest, deep, wide, low, large girth.....	2
Ribs, long, close, sprung.....	2
Back, straight, short, broad.....	2
Loins, wide, short, thick, straight	2
Underline, flank low	1

SCALE OF POINTS FOR DRAFT HORSES—GELDING

*Continued***HIND QUARTERS:**

Hips, smooth, wide	2
Croup, wide, muscular.....	2
Tail, attached high, well carried.....	1
Thighs, muscular	2
Quarters, deep, heavily muscled.....	2
Gaskin or lower thighs, wide muscled.....	2
Hocks, clean cut, wide, straight.....	8
Cannons, short, wide; sinews large, set back.....	2
Fetlocks, wide, straight, strong.....	1
Pasterns, sloping, strong, lengthy.....	2
Feet, large even size; horn dense; dark color; sole concave; bars strong; frog large, elastic; heel wide, one half length of toe and vertical to ground.....	6
Legs, viewed from behind, a perpendicular line from the point of the buttock should fall upon the center of the hock, cannon, pastern and foot. From side, a perpendicular line from the hip joint should fall upon the center of the foot and divide the gaskin in the middle; and a perpendicular line from the point of the buttock should run parallel to the line of the cannon	4

ACTION:

Walk, smooth, quick, long, balanced.....	6
Trot, rapid, straight, regular.....	4

Total.....100

III. JUDGING LIGHT HORSES.

As in the draft horse the most important matters to notice in the general examination are the form, quality and action of the horse under inspection.

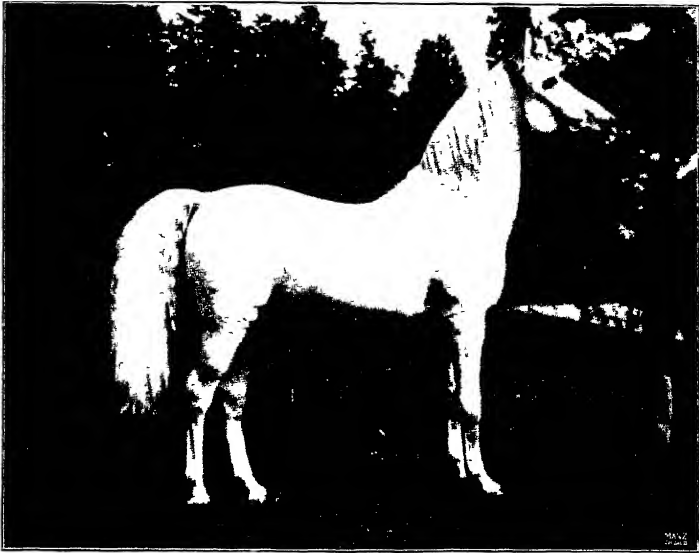
29. Three Classes of Light Horses. The light horse in respect to form and other characteristics may be divided into three main classes: the carriage or heavy harness horse, the road horse and the saddle horse. These may be spoken of as the most common types recognized in the market, while the pure bred representatives of them are to be seen in the breeds of coach horses, the standard trotter and the standard saddle horse.

30. Heavy Harness or Carriage Horse. The distinguishing features of the coach or carriage horse are its symmetry and action. The height should be from 15½ to 16 hands to make a good appearance. In contrast with

the roadster the carriage horse is very smooth and symmetrical. The smoothness should be due to plumpness of the muscle over all parts. In the carriage type the head should be comparatively small and lean, the ear neat, the neck long and carried gracefully, the body round and plump and the limbs clean cut, with well formed and durable feet. Graceful carriage and stylish action are leading qualifications.

31. Analysis of Style. When in any posture, style is a very desirable attribute in any carriage horse. A critical examination of this type would indicate how far the possession of style depends on the adjustment of the parts of the framework. When a carriage or coach horse possesses characteristic style, there seems to be an appropriate blending of all proportions of form. In analyzing this it will be found that most of the lines have a similar direction, in addition to the fullness of contour already discussed. The line running from the poll to the nose seems to be parallel to that of the shoulder, the line dividing the pastern also has a similar direction, and the line of the thigh in the hind quarter corresponds with the slope of the hind pastern. Considering the lines that run different from these it will be noticed that the one made by the arm from the point of the shoulder to the elbow is very similar in direction to that made by the ischium of the pelvis and this again is similar to that of the lower thigh. Each part of a typical carriage horse seems to bear a fixed relation to every other part both in size, length and slope giving the horse that symmetry which contributes so much to its style and beauty while standing or in action.

32. The Trotter or Roadster. The chief characteristics of the roadster are speed and stamina. The ability to trot fast is a desirable quality and the ability to maintain a rapid gait is equally essential in a horse of this kind. In addition to being able to stand steady road work, such

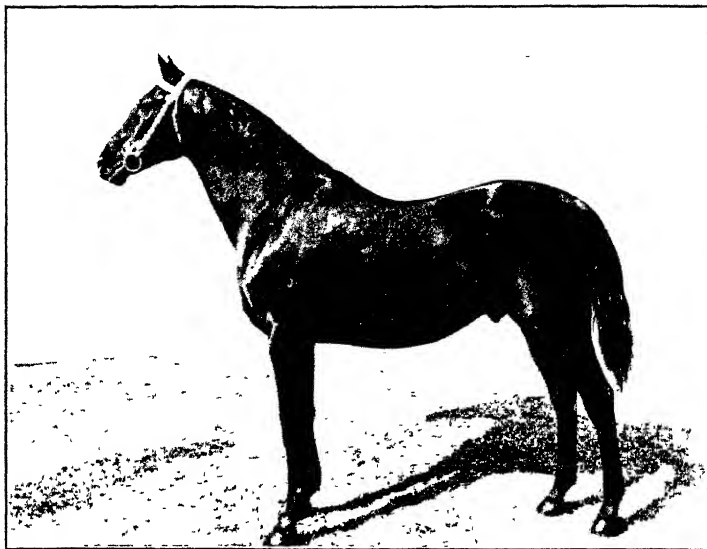


Arabian stallion, SHAHWAN, bred by Ali Pasha, Sherif, Egypt, sold to W. S. Blount, in 1892, and taken by him to England and afterwards sold to present owner, J. A. P. Ramsdell, Newburg, N. Y. The photograph shows this horse to be a model of symmetry, style and quality.

DESCRIPTION OF THE ARAB HORSE

THOUGH there is some unreliable sentiment associated with the Arab horse, yet there is not a vestige of doubt but that they are of superior symmetry and quality. This is perfectly summed up by Sheik Abd.-El-Kader. "The horse of pure descent is distinguished by thinness of its lips, and the cartilage of the nose, by the dilation of its nostrils, by the leanness of the flesh encircling the veins of the head, by the graceful manner the neck is attached, by the softness of its coat, its mane and the hairs of its tail, by its breadth of chest, the largeness of its joints and leanness of its extremities. According to the traditions of our ancestors, the thoroughbred is still better known by its moral characteristics than its physical peculiarities." Major R. D. Upton in "Newmarket and Arabia" gives the characteristics of the Arabian horse in the following statement which is true of those familiar to the author: "The Arabian is a horse of the highest courage, in stature about 14 hands 2 inches, a horse of length, power and substance, combined with the elastic and sinuous-like movement of the serpent. He is a very perfect animal; he is not exaggerated—in some parts large, meagre and diminished in others. There is a balance and harmony throughout his frame not seen in any other horse; the quintessence of all good qualities in a compact form."

The head of the typical Arabian horse is exceedingly straight and the eye markedly full and bright. Perhaps the most striking feature of the type is the round and extra well ribbed barrel. In action the movement of the legs is very peculiar, being very strong and elastic. Though small, the form is exceedingly smooth and symmetrical, while the evidences of quality are strikingly shown.



Thoroughbred Stallion, HENRY OF NAVARRE. Owned by the U S Government and used for siring cavalry remounts. Photo taken at 22 years of age.

DESCRIPTION OF THE THOROUGHBRED HORSE.

IT IS of much assistance in understanding the type of the thoroughbred to remember that they are the oldest of the breeds of horses and that they have been bred for many years for a leading purpose and thus has generally been running speed. To secure this there had to be associated with the mechanism that produces it, unusual quality of structure, stamina and ambition. The running record for a mile is held by Salvator, the time being 1.35½ on a straight track. The common colors among the representatives of this breed are brown, bay and chestnut. The distinguishing features are a refined appearance, especially clearly defined lineaments, with length of neck, deep chest, short upper line, long under line, somewhat straight croup, muscular thighs, neat pasterns, dense bone, firm muscle and active temperament. An inclination to ranginess in type is required, with a racy appearance, usually resulting in a horse standing 16 hands. Extreme breeding for the leading characteristics mentioned makes it necessary to discountenance in the show ring light bodies and a general appearance which has given rise to the term "weedy," which is also associated with lengthy pasterns and long legs. Being highly sensitive in organization they frequently reflect an erratic temperament. Their purpose being principally for racing, high quality with endurance and spirit are cardinal qualities, and it is these same features which have made them useful in the production of strong drivers and stylish carriage and saddle horses.

a horse must be well mannered so as to be safe and pleasurable to drive.

The typical roadster may be said to be about 15½ hands high and about a thousand pounds in weight. In conformation the horse of this class is somewhat narrow in front, deep chested, wide at the loin and very muscular in the quarters. Every feature about the horse appears clean cut, giving a hard finish which indicates durability. The lineaments of the face and the outlines of the neck and especially the distinctness with which the tendons stand away from the leg are very desirable features.

The type lacks the fullness and symmetry that are characteristic in the carriage or coach horse. To do effective and hard work on the road is the sphere of the roadster and the type that has been evolved is an illustration of the evolution of a form for a specific purpose. The type of the best campaigners that have marks of 2:10 or better will show a similarity that indicates the type towards which the trotter is tending. Though it should be noted here that the roadster in show form will show quite different outlines from one that has been subjected to the hard training that the campaigner receives.

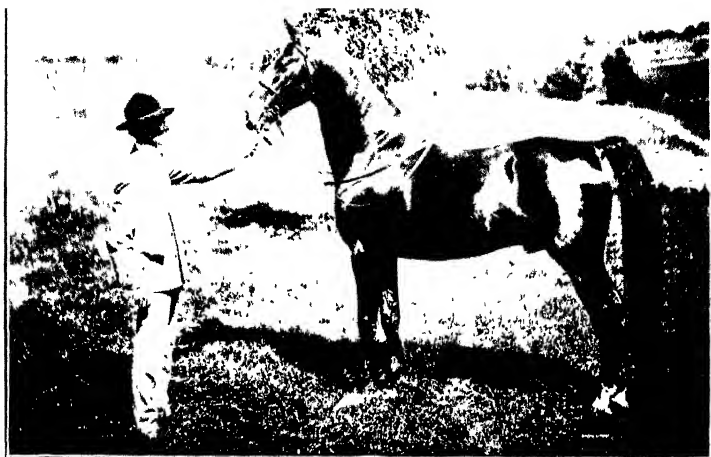
To describe the roadster form in detail it may be said that the head is proportioned to the rest of the body, wide between the eyes and somewhat sharp at the poll. The neck is slim, long and very often carried somewhat straight owing to the continual use of the top check. The shoulder slopes very markedly and extends well along towards the back. The arm is short and this with the slope of the shoulder makes the under line much longer than the length of the back. The fore arm is long, the cannon short and the pasterns with sufficient length and slope. The horse appears too far from the ground in proportion to its height. The back is short and strong, rising some at the hips and the croup is strongly muscled. Perhaps the most noticeable feature of the type is the exceptional length from the hip joint to the point of hock and then

from the point of the hock to the fetlock joint the distance is short, making the hock appear as if set low.

33. The Pacer as a Roadster. As a roadster, the pacer has many claims for consideration chiefly on account of the speed that characterizes this gait and the fact that it is easily maintained on smooth city roads. It is, however, mainly the quickness with which full speed is attained that makes the pacer so popular among the road riders of our cities. The difficulty that a pacer encounters on rough broken roads or in snow, makes it necessary to have a smooth hard road to enjoy the pleasures of the gait.

Among pacers there is often noticeable a type that is not desirable in any class. It can hardly be called typical of this class of horses for many of those that are fastest at this gait, do not have the very low fore hand, the cramped hind quarters or bent-in hocks that are often connected with this form. The horse that paces smooth and true exhibits an easy and pleasing manner of going as well as one effective in producing speed, but there are many varieties of this gait that are the reverse of this because of defects in conformation which preclude rapid movement in any other manner.

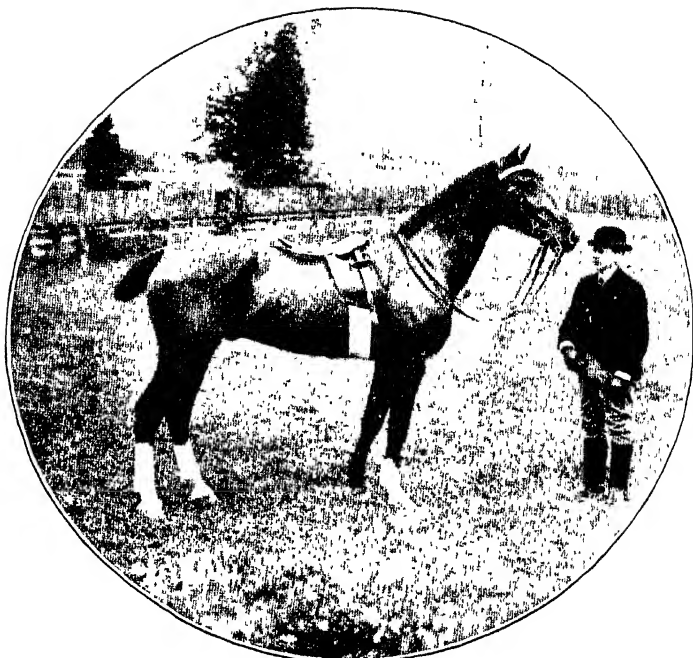
34. The Saddle Horse. Horses for use under saddle are of numerous kinds, yet the essential features are common to them all. For pleasure-riding there are park and road types, the former being the most showy and with higher action. Both are ordinarily docked. Only three gaits, walk, trot and canter, are called for in these horses. Then there is the very stylish and highly trained horses preferred in some sections and having the following five gaits: (1) Walk. (2) Trot. (3) Single foot or rack. (4) Canter. (5) Slow pace, running walk or fox trot. The gait known as single foot or rack is very similar to the pace, except that in the latter the two feet of the same side move together, while in the single foot the hind foot reaches the ground shortly before the front foot on the



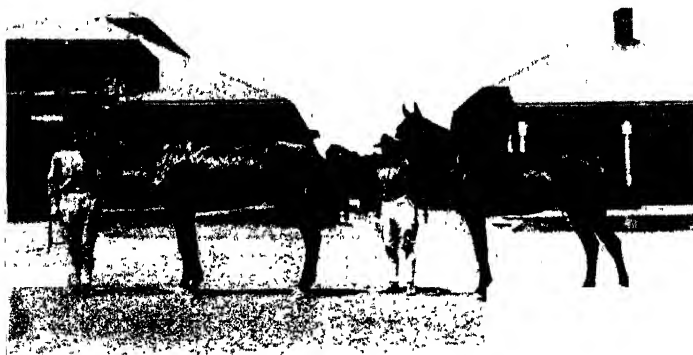
Five Gaited American Saddle Stallion, MONTGOMERY CHIEF, noted as a sire and grandsire of five gaited horses.



A Good Type of Three Gaited Park Saddle Horse.



Typical Hunter (Heavy Weight). Observe the rangy conformation and abundance of muscle and bone that are characteristic of this class of horse



Cavalry Remount. Photographed at the U. S. Army Headquarters at Fort Myer, Va.

same side. The gait known as single foot is considered synonymous with that of the rack and it has been described as exactly intermediate between the true walk and the true trot, each foot apparently moves independent of the other with what has been termed a "one at a time movement."

In addition to the above types there are hunters, polo ponies, and cavalry horses that are used exclusively under saddle. The hunter must have the ability to carry weight and jump well and also go long distances. The polo pony is not over fifteen hands high and must be well trained, speedy and quick in turning. The cavalry horse must have the long neck, sloping shoulders, high withers and short back essential to all saddle horses and must have endurance and stamina.

Saddle horses have many features common to other light horses. Quality and manners are as essential to a good horse for any use under saddle as are the particular points of conformation that have been named.

35. Quality. This term applied to horses has reference to their bones, skin and hair. Evidences of quality are clearly cut features, glove-like skin, silky hair and firm, clean bone. In the instance of the horse possessing quality, the lines of the face are clearly defined and in every region there is a complete absence of coarseness. It is possible in such a horse to easily distinguish the muscles, tendons and bones and when slightly exerted, so that the coat lies smooth, the veins in the skin show clearly in an intricate net work as delicate and fine grained as the skin. This freedom from coarseness in the joints and tendons show a soundness in these features that guarantees durability. Coarse hair is associated with coarse skin and that is a true indication of soft, spongy bones which quickly become diseased when subjected to the strain of hard usage or neglect.

36. Endurance Indicated by Quality. The connection between a horse's staying power or endurance and its

quality is frequently seen when subjected to severe road work, but the reason for the connection is not so plainly evident. The fine skin that is one of the features of high quality is considered to be of value for what it tells of the internal organization of the animal, for it may be said in a general way that the one skin covers the horse internally as well as externally. The inner coat of the skin which covers the ribs and all external parts is a continuation of that which lines the stomach and intestines. If the skin covering the internal region is soft, fine and pliable it indicates that the secretions are healthy and it would seem natural to reason from this that the lining of the stomach would be in the same state, and if such is the case it is in a better condition to digest the food that goes into it, thereby increasing the horse's recuperative powers and endurance.

37. Durability Associated with Quality. Quality in a horse's limbs and feet is especially desirable for the reason that such prove more durable under stress or strain. In looking for this feature in the leg, it is a common practice to run the hand over the cannon bone. In doing this the skin and hair are felt against the bone and if there is the proper quality there, the skin seems to melt from under the hand letting the latter come in close contact with the bone which feels firm and smooth. The fingers seem to touch each other as they pass between the tendon and the bone of the leg, when the latter has the right degree of quality. It is a fact that in finely bred horses that undergo unusual trials of endurance, such as the thoroughbred and the trotter, the texture of the bone is decidedly firmer and closer than that of horses bred for slower work. Another evidence of quality is to be seen in the lines showing the division of the muscles as these should appear distinct in the horse of quality and the joints of the limbs should not show any fullness but be clearly defined and hard.

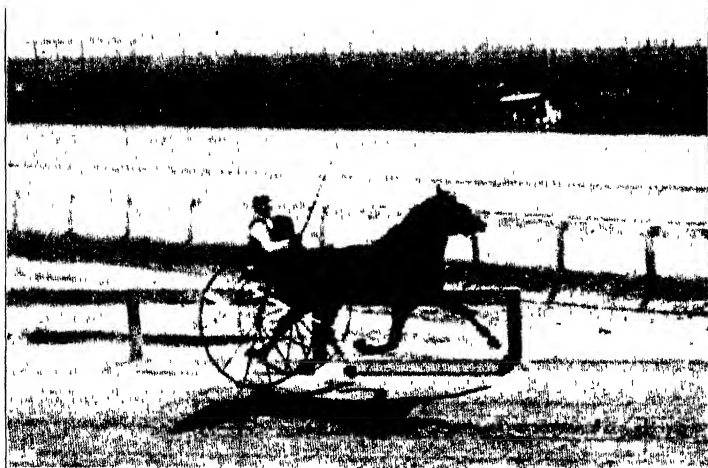
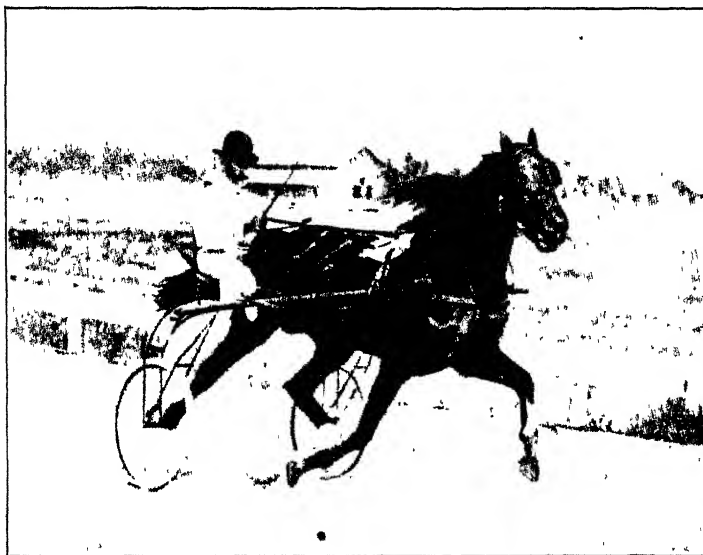


Photo by Philips, Independence, Iowa.

ALLERTON, record 2:09 $\frac{1}{4}$, in action, showing the reach and movement to secure greatest speed.



ONLINE, record 2:04, owned by the International Stock Food Co., Minneapolis, Minn. The photograph shows clearly the movement of the legs when a horse paces level and true.



THE HARVESTER, champion trotting stallion, as he appeared when he came on the track for a warm-up mile on the day he made his record of 1:01 at Columbus, Ohio.

38. Action—Why, Highly Valued. In the market for light horses there is no single feature held in higher estimation than that of desirable action. It has different degrees of valuation when associated with the various types of horses, but to sell well they all must have as much as may be displayed and used to advantage. The fact that proper action associated with the coach type brings exceptional prices in the market, would of itself make the subject an important study, but when its influence on the prices of all classes of horses is considered, it at once assumes the position of being the most valuable characteristic connected with the classes of light horses.

Good action is mainly desirable for its utility and also for the many other qualities which it indicates. It will readily be expected that the horse with good action is more durable and more enjoyable, as the work is done easier, and also more profitable, for more of it is accomplished. But looking further into the subject it is surprising what other attributes are dependent on it. The action of a horse reflects its temperament, proves the balance of its conformation and indicates soundness. With right action there must be a dash and zest which is the outflow of a sanguine temperament making light of the hardest effort. Then the conformation which is but a living mechanism of levers, pulleys and transmitters, must have the delicate adjustment and balance, that gives grace and smoothness to every movement. Further there cannot be any unsoundness to render less free or firm the step as both these characteristics must be prominent in actions of all kinds. The more action is studied, the deeper becomes the conviction that every attribute of the horse contributes to it. Every quality comes more or less into play and for that reason the difficulties in the way of securing the typical action of the high degree of merit are almost insuperable.

39. The Walk—Active, Straight, Level. Excellence at this gait is a very desirable quality in all varieties of

horses, and unlike the trot its meritorious features are the same in all, as it has no connection with type. In the enjoyment of a road horse there is much to admire in the manner in which he conducts himself when walking. It is questionable as to which is the most pleasurable to observe—the walking of the horse whose step is evenly timed and nervy, or the trotting of one that has all the grace, style and snap that characterizes the coacher.

40. Observing Straightness of the Walk. In moving away from you the feet of the active walker leave the ground with a quick snap, showing in its passage the reflection of the whole shoe. After leaving the ground with this peculiar snap the foot swings upward and forward, then the knee unfolds, the pastern carries the foot gracefully forward and it again comes to the ground lightly but firmly with the characteristic spring and snap that identified the first movement. The feet move straight away, swerving neither to the left or to the right, nor should the folding of the knees or the flexing of the hocks result in an outward pitching or spreading. A horse that will lift and plant his foot in the way described almost invariably has the upheaded and commanding appearance in movement which is so admirable in the harness horse.

41. Manner of Noting Levelness. The crucial test of the balance of a horse's walk is the side view. Any variation from proper structural proportions results in wobbling, hobbling or an otherwise uneven walk, and all these are readily seen from the side. The levelness with which a horse walks is one of the best evidences that the legs work in harmony. The most common deflection from this is attributable to a long, slim coupling which gives the onlooker the impression that the horse might break away into two parts near the region of the loin. In defective conformations of this kind the stride of the hind limbs is short and he usually has an uneven, choppy gait that is unsightly as well as ineffectual in covering distances. On the other hand an opposite relation of the



—Photo by Schreiber

Photograph of the American standard bred trotter, GEO WILKES, 2:22; founder of the great Wilkes family of standard bred trotters.

DESCRIPTION OF THE STANDARD BRED HORSE.

THE CHIEF characteristics of the American standard bred horse is speed at the trotting and the pacing gaits, the world's trotting record for one mile being held by The Abbott, the time being 2:03 $\frac{1}{4}$, while the world's pacing record for the same distance is held by Star Pointer, the time being 1:59 $\frac{1}{2}$. The type which should be encouraged in the show ring is that which conduces towards this end, while at the same time showing the characteristics required for endurance, ambition and the essential features of a road horse. This means the possession of general features represented by an intelligent head and extremely light neck, low, deep chest, oblique shoulder, long, muscular forearm, strong knees, short cannons, slim, sloping pastern, and feet of good wearing quality, with round body rising slightly over the loin; neat, long croup; thighs full with low hocks that are strongly constructed and clearly defined. Such deficiencies as are due to undersize, lack of style and substance should be points for underscoring in the show ring. In this connection, it is of importance to understand the difference that may exist in representatives of this breed when they are undergoing the strenuous work of campaigning or when they are retained only for show and stud purposes. As many carriage horses have their origin in this breed, as well as most of the roadsters and trotters, emphasis should be given to the qualities which mean endurance, ambition and high finish.

It sometimes occurs that both pacing and trotting action compete in the show ring in a class for roadsters or standard bred. Both these gaits must be recognized and the preference given to the one that shows the most purity and is the best in every particular of its kind. The distinction must be made between the high knee and hock action of the carriage horse and the more reaching and easier folding action of the roadster or trotter. See standard, page 59.

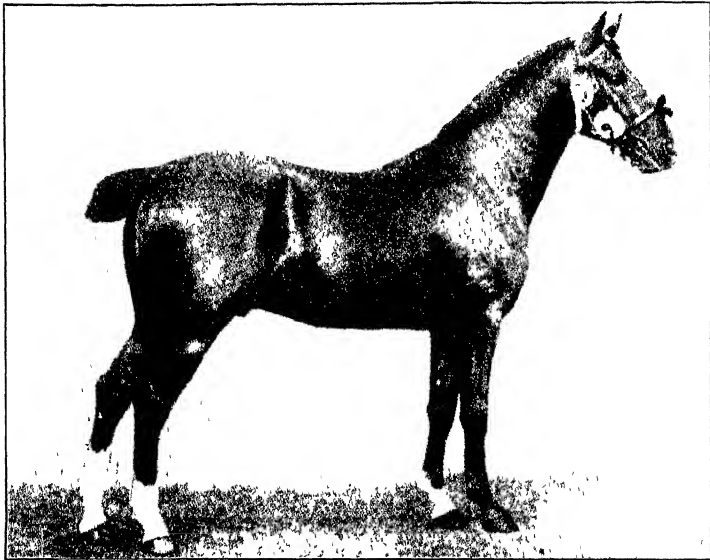


Photo by G. A. Tadman.

Hackney stallion, ROYAL DANEGELT 5785, owned by Sir Walter Gilbey, Elsenham Hall, Essex Winner of championship at London Hackney Show, 1898, and at the Manchester show of the Royal Agricultural Society of England in 1897.

DESCRIPTION OF THE HACKNEY HORSE.

THE HACKNEY was established in Great Britain as a breed to meet the requirements for a horse of extreme smoothness, with gracefully curved outlines, having the action necessary to show these to the best advantage. The head is light, neck muscular and curved but free from heaviness; shoulders smooth and laid well back; body circular, compact, short; hips smooth; quarters plump with muscle, legs short with tendons clearly defined. Their action is noted for its straightness and height, and the regularity of knee and hock movement. There is a variation in the types of the breed, some showing more upstanding with abundance of quality and straighter lines, while others are shorter limbed, fuller made and especially strong in action from a carriage standpoint. The secretary of the Hackney Horse Association of Great Britain has summed up the general description of the Hackney, which, as he says, fitted old style and new ideal, in the following: "A powerfully built, short legged, big, broad horse, with an intelligent head, neat neck, strong, level back, powerful lines and as perfect shoulders as can be produced; good feet, flat boned legs, and height of from 15.2 hands to 15.3½. In addition to showing a type required for a carriage horse, the hackney must possess as a necessary essential true carriage or coach action.

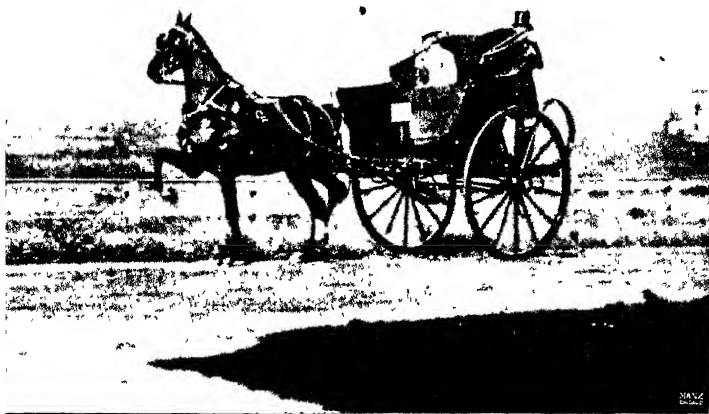
parts, close coupling and short back, with long legs, is likely to give use to a slovenly swinging gait, producing clicking, stumbling or other deficiencies. If there is a flaw in the mechanism of the front legs, it is usually made evident by the movement of the front feet, especially as they are about to touch the ground. If the limb proportions are ungainly the feet do not seem to reach the ground at the proper stage, either turning too much on the heel or not turning enough and precipitating the toe. From behind it is easy to observe if the walk of the hind limbs is level thus being free from any hitching, wobbling or unevenness in the stride.

42. The High Stepper in Action. The highest priced action in the general horse market is that of the high stepper. The peculiarity of this action consists in lifting the knees inordinately high and flexing the hocks so that they come close to the body and keep the legs well under it. From the standpoint of action alone, the higher the knees and the hocks are lifted the more valuable is the horse, provided the type and other features more common are equally satisfactory. The feet must be thrown forward without any dishing on either side and the hocks must pass each other close and in line with the forward movement. It is easy to understand that while this method of movement is the most showy and stylish, it is not serviceable action for a road horse. The front legs soon succumb to the heavy concussion they would be called upon to stand under hard driving. But this action is sought only in the horse that is used for short drives about the city where style is paramount to speed and stamina. While it is recognized that the high stepper should have as many as possible of the other qualities of excellence in addition to high action, yet all others are considered of minor value among horses of this class. "All-around action only to be considered" is the current phrase in the prize lists that provide classes for competi-

tion among the high steppers, which means a combination of shoulder, knee and hock action.

43. The Carriage Horse—Manners When in Motion. A connoisseur of horses will see much more than the legs of a carriage horse when moving. As such a horse moves before an appropriate vehicle with the latitude of a light hand assisting him there are flashes of gracefulness from every motion. With this there is a quality of mind that gives buoyancy to the step and accounts in no small degree for the uplifted carriage of the head. It is expressive of a happy temperament that gives gracefulness to every poise and smooth flow to every movement. Even such a minor organ as an ear plays its part, the eye, too, shows the fire from within and challenges the critic for its meed of praise in measuring the step and alertness in giving it security. Scan the lines of the neck, and notice their tenseness and yet the unusual elasticity it shows when occasion offers for the movement of greater gracefulness. The shoulder plays with freedom and the smooth turned loin and quarter seems the only regions that are not taking part in this unusual display, though in this immobility they show their real strength.

44. Straight and Regular Action. As to the action of the fore legs, it is straight away with continuous folding and unfolding. In the action of the carriage horse there must be some style and dash and high lifting of the feet, but never enough of it to make the action unserviceable. At no time is the fore leg held in poise as it does not dwell either in flexion or extension. The foot snaps from the ground and is then carried forward while the limb unfolds, as if following the rim of a wheel. It seems to reach the ground at the right stage of the unfolding so that it is not held in suspense at any point along the line of descent. The feet pass close and in a straight line so that there is no swaying or dropping down of the fore hand with each step. The hind foot leaves the ground with the same quick movement and at no time is it al-



High stepper in action. Photographed from "Driving for Pleasure," showing the extreme degree to which the knee and hock action may be developed by heavy shoeing and training.



LEADER, THE SCOTCHMAN, in action, showing the folding of the knees and the flexing of the hock desired in carriage horses.



Photo by Schreiber.

LEADER, THE SCOTCHMAN, winner of numerous prizes at the Boston and Philadelphia horse shows in the heavy harness classes. Illustrative of the fullness and symmetry of form that should be a feature of the carriage or coach type



Photo from Rider and Driver.

THE DEMON and LOTHARIO showing the type desirable in a pair of carriage horses.

lowed to hang back so as to give the horse the appearance of not gathering himself well together.

45. The Driver's Sensation of Action. After all is written that it is possible to write about the action of the carriage horse, there is something else that must go with it which cannot be described with sufficient vividness to make the novice appreciate it. It has something to do with power and its connection between the animal and its master seems to be the driving lines. As you sit behind the horse of true carriage action and conduct you feel your proximity to a powerful mechanism that is undergoing a test of its minutest parts. If anything fails everything will be demoralized but it is the feeling of strength and power in the animal that allays unnecessary fears.

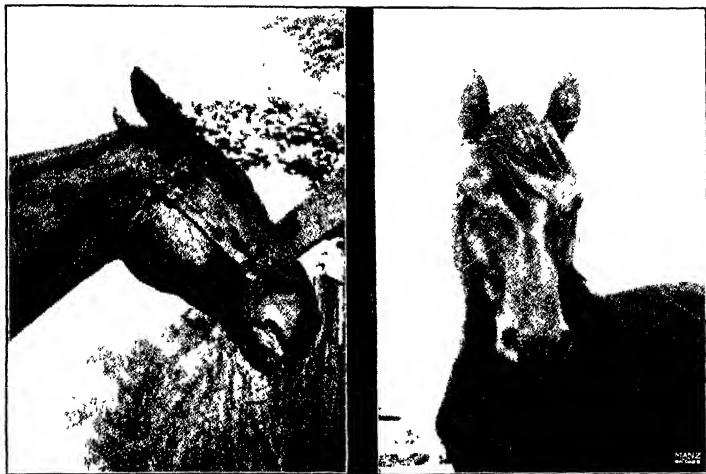
Without leaving this feature connected with the carriage horse let us study its relation to the trotter. Substance and strength in the carriage horse gives momentum to the occupants of the somewhat cumbersome carriage, while the trotter loses these for speed and stamina. Between the trotter and its driver the feeling is that of flight instead of power in motion. The difference in the feeling resulting from following the movement of these two classes of horses might be better expressed by reference to the difference in the feeling that one has when standing beside a swift turning windmill, as compared with the effects of observing the turn of a ponderous water wheel. The former takes advantage of every breath of wind and speeds a merry clip without apparent exertion or strength; the other impresses one at once with its power and in a lesser degree with its combination of strength and speed.

46. The Trotter—Speed and Stamina. The leading feature of the action of the trotter is speed at the trotting gait, but there are many others that must be companions of this to result in the greatest development and the chief of these is stamina or the ability to maintain the neces-

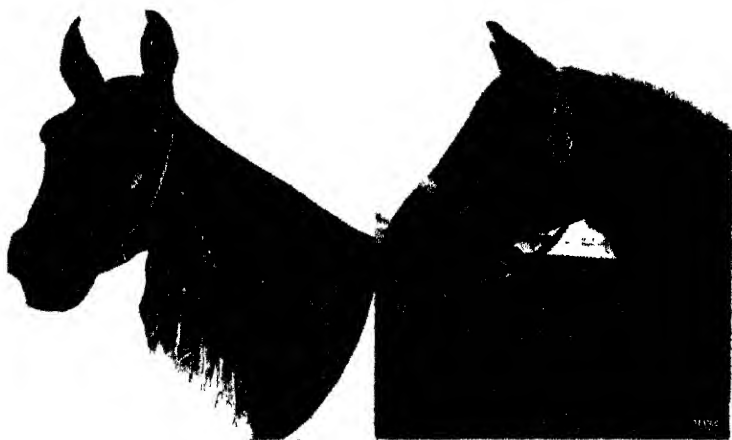
sary gait. It is generally thought that if a horse has speed he has the one essential necessary to make a trotter or a good road horse. Not only is speed desirable but there must be a true balance of parts, that insures their protection together with trueness of stride. Being true and level gaited guarantees the greatest durability and that with an ambitious turn of mind gives us that very desirable quality in the trotter, termed "gameness" or stamina. Of all features of the trotter's action it must be the most evident that it is not in the least wasteful of energy. While that of the carriage horse or high stepper must display effort, the trotter should move so as to leave the least impression of this.

Less roll to the knee, more propulsion from the stifle and less motion in the hocks carries the trotter forward closer to the ground and with less expenditure of force and without the higher lifting of the knee and hock which is characteristic of the high stepper. There is much more extension of the limbs in the trotter, as shown in the reach of the fore leg, while the hind legs pass back farther and reach farther forward than in the action of the high stepper or carriage horse as the latter must keep his legs under him to gather himself together in the proper degree. A wider spread in the movement of the hind legs in the instance of the trotter is not as bad a fault as it would be if associated with the carriage horse. It is frequently noticeable as a distinction between the action of a trotter and coacher, that the latter is balanced in stride when going an easy gait but becomes unbalanced or weak when urged beyond it, while the trotter may very often show an uneven gait when moving slowly but when urged to the limit of its speed, displays truly balanced action without any tendency towards losing its stride.

47. The Pacing Gait—Level and True. A study of this gait will disclose the fact that there are more variations in it than in any other form of action. Horses pace in



The illustration on the right hand shows a well bred and intelligent head, the subject being LOLA RONAN, standard bred road mare owned by the author, while that to the left is a photograph of a head showing lack of breeding and deficient in fullness of forehead.



Two photographs to illustrate the differences in the appearance of horses' heads when they are trimmed and untrimmed. The head shown trimmed is that of Boralma, 2-08, the unbeaten 4-year-old trotter. * * * The trim appearance of the head is to some extent due to the fact that the foretop has been clipped, the ears trimmed, the mane clipped back of the foretop. The companion head, on the right, though of a French Coach mare showing abundance of quality, is yet very coarse in appearance, largely due to the fact that the head has not been trimmed. The mane has not been cut away. The long hair is in the ears, the foretop has not been removed, while the long growth of coarse hair below the jaw has not been trimmed.



These photographs have been selected to show the difference in the dispositions of horses. The upper one shows desirable temperament with harmony between horse and rider. The lower one shows horse and rider out of touch with each other and the horse discloses by expression and countenance a strong will and vicious disposition.



Photo from Horse Show Monthly.

A row of good heads. The heads of the horses shown here indicate a high order of intelligence, borne out by the fact that they all possess sufficient intellect to act. Beginning on the left hand their names are Charley Adams, Nixon, Alice, Blair, Charlie Ross, Ella, Maud. They are used in the stage plays Sporting Life and the Great Ruby. They are owned by the LeRoy Payne Co., of 171 Michigan Avenue, Chicago. Without exception they show intelligent heads in that they display full foreheads, open countenances, large eyes, with abundant width between them.

many ways, some lurching, others shuffling and many more wobbling in an unsightly manner but, however they may go, they are nearly all characterized by possessing speed. A level and true pacer displays a sightly gait. In pacing level and true the body remains steadier than in any other movement. The legs move in harmony with the directness of a machine. The nervy, machine-like pace peculiar to many of the fast pacing animals is a study in the degree to which the minimum of effort results in the maximum of speed. Some horses pace because of bent hocks, others because of ungainly proportion but when the gait results from breeding and is the outcome of straight and direct movement, it is difficult to imagine a gait with less friction or display of effort. In the instance of the horse that possesses true excellence at this gait, if you were to shut off your view of the limbs in motion, you would have the impression that the animal was standing on a rapidly moving train hidden from your view, so little does the body and other parts above the line make any display of effort. As a rule the pace from the standpoint of the spectator is an unsightly gait, but one that is usually thoroughly enjoyable from the point of view of the driver. Owing to the ease with which the pacer moves and the lightness with which they speed over pavements, combined with the rapidity with which they can reach their speed, the pacer has become very popular among city road riders.

II. Structural Examination.

Thus far the features that enter largely into the general appearance of the horse, the form, quality and action, have been considered, but in addition to these qualities there are numerous details of structure and soundness which have a predominating influence on the value of any of the classes that have been discussed. Not only must horses of the classes described prove sound to be of service, but to sell well they must also show the strength of structure that wards off the possibility of any unsound-

ness developing in the future. A badly constructed hock without a curb may depreciate the value of the horse fully as much as a curb present on a strong and well formed hock. The first does not have a curb solely because it has never been subjected to a strain, while the curb in the latter instance must have been due to stress of more than common severity. To discuss this division of the subject in detail it will be necessary to arrange the material that follows so as to consider the various parts of a horse completely.

48. Head—Straight, Lean. The shape of the head and the countenance of a horse adds greatly to its appearance, and as this is the part which is most frequently observed it becomes of some importance. The line from the ears to the point of the nose as seen from the side should be almost straight. In scanning the photographs of a great number of trotters it will be noticed that nearly all stallions have slight Roman noses while most of the mares have slightly dished faces, a distinction which seems to be characteristic of the sexes. As a rule it will be found that horses of very prominent Roman noses are self willed. Small nostrils are generally associated with this form of nose and as a consequence we find in such instances, that the respiratory or breathing organs lack development. The features of the face should be distinct, without the least appearance of coarseness or meatiness. A lean face is suggestive of good quality in a horse. The muzzle should be fine in quality to make the head appear at its best. Between the eyes there should be breadth enough to give a pleasing frankness to the countenance. It is a point of practical value as an index to the brain development which is of much importance in a light horse, for in this class intelligence is a merit of high value. While it is granted that the intelligence of a horse depends mostly on the training received, yet there is a marked difference in the benefit which horses derive

from training, and that difference may only be accounted for by variations in the brain development.

49. Nostrils—Large, Open. The nostrils of a horse should be large, thin, dilatable and of a pink color. While there should be no discharges from them, they should always have the appearance of being moist.

50. Eyes—Full, Clear. A bright eye indicates vigor of constitution, that is, stamina, staying power, or bottom, as it is sometimes called. It is also associated with a happy disposition and it seems to be this that accounts for the fact that some horses do an enormous amount of work with little worry and strain upon themselves. A large, full, clear eye is indicative of a kind, generous disposition and good health.

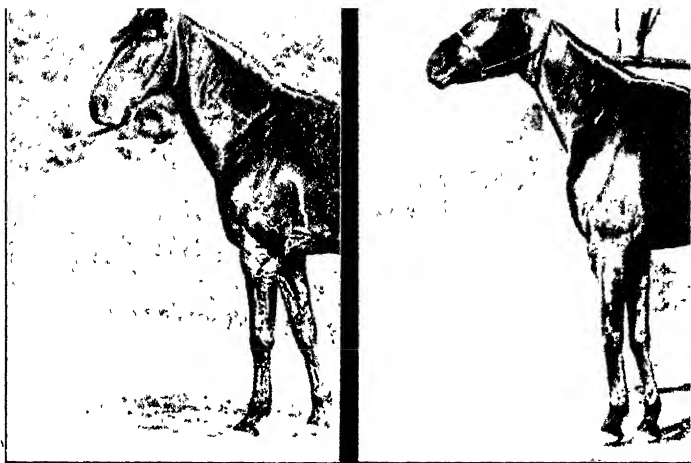
51. Ears—Erect, Active. The ears should be close together and carried in an erect position. They should be active and somewhat pointed. Lop ears indicate lassitude, or in plainer words, laziness. When it is noticed that a horse does not shift or move either of its ears to any extent to catch sound, it is safe to presume that it is afflicted with deafness. On the other hand if it is continually moving them, it is advisable to inspect the eyesight carefully as it is likely that the extra labor imposed on the ears has its origin in the defect of one or both of the eyes.

52. Jaw Bones—Wide, Sharp. Between the jaw bones there should be sufficient width for a large wind-pipe and also enough to allow the head to play freely on the neck. When the space between the jaw bones is very narrow it will often be noticed that the horse carries his head stiffly, but when there is sufficient width in this region, the head is usually carried gracefully and moved freely on the neck. The throttle or throat latch should be light without any unnatural fullness between the jaw bones or heaviness at the juncture of the head and neck.

53. Neck—Arched, Muscled. Nicely moulded and distinctly chiseled neck of sufficient length, carrying the head gracefully is one of the most beautiful features of the light horse. Extending towards the shoulder the neck should swell gradually so as to join the body smoothly. The wind-pipe should be large and appear distinct from the rest of the neck and the upper outlines of the latter should be sharp. While many excellent road horses have what is called a ewe neck, it is none the less a defect as it detracts very much from the symmetrical appearance.

54. Chest—Deep, Projecting. In the light horse that is called upon for light work, the chest should obtain its capacity more by depth than breadth. The reason for this is that the deeper chest permits the freer play of the shoulder. It is easy to see that swift, smooth action of the fore legs is hardly possible in the broad chested horse, mainly because it throws them too far apart and out of line with those behind. It will often be noticed in this direction that too much width causes the horse to pitch or roll in its action. A deep chest is evidence of staying power. The conformation of noted campaigners on the turf, such as Mary Marshall (2:12), The Abbot (2:03 $\frac{1}{4}$), The Harvester (2:01), may be cited to illustrate full development in this feature.

55. Shoulders—Long, Oblique. The conformation of the shoulder is one of the parts of all light horses that requires critical scanning. To give elasticity to the movement of saddle horses and to permit of quick and clean action in the roadster, the shoulder should be long and oblique. An upright shoulder is very likely to result in short, stilted action, frequently accompanied by stumbling, and it is quite a fertile cause of such bone diseases as sidebones and ringbones. The high action which is desired in the coach horse and the long reaching, clean action so sought after in the roadster depends as much



The photo on the left, HUMMER 6112, shows a sloping shoulder and a foreleg of quality set properly and strongly supported below the knee with correct pastern and excellent foot. Subject of the other photo is too straight in shoulder and pastern with weak knees



Photo of a smoothly turned horse, especially round ribbed and on that account appearing too long in the legs, though not really so.

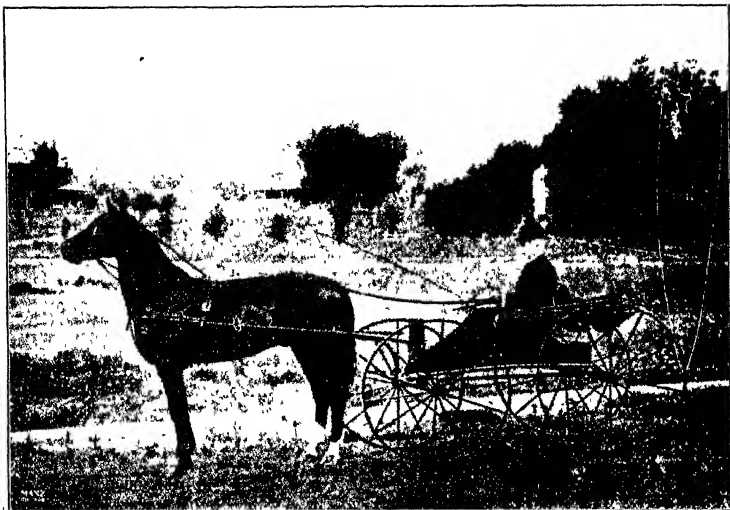


Photo by Schreiber.

Hood's MCGREGOR, record 2:26 $\frac{1}{4}$, by Robert McGregor 2:17 $\frac{1}{4}$. Winner of three first prizes Philadelphia Horse Show, 1897, in roadster classes, and also first for best appointed road rig.



Photo by Lillie.

Saddle gelding, COLUMBUS, showing Spanish trot. Winner of first prize high school class at Kansas City Horse Show, 1898. Owned by C. T. Walker.

on the obliquity and freedom of movement in the shoulder as in any other feature. In addition, a sloping and long shoulder strengthens the back and extends the length of the under-line. The muscular development of the shoulder should also be carefully noted, for if there is an unusual bareness or lack of muscular covering it would denote the fact that sweeny has affected it.

56. Fore Legs—Broad, Cordy, Straight. The appearance of the fore leg from the side should show it to be flat and cordy. The flatness shows the tendons to be properly attached and some distance from the bone and the clean cut appearance denotes the absence of any coarseness about the legs. Viewing the legs from in front and using a plumb line it will be found in the instance of a leg that is straight, that a perpendicular line downward from the point of the shoulder, should equally divide the knee, cannon, pastern and foot. Viewing the fore leg from the side, a similar line dropped from the center of the leg at a point where it joins the body should nearly divide the leg until the fetlock joint is reached and from there to the ground it should fall exactly behind the foot. Any variation from these two lines shows crookedness from either point of view. The leg should be long from the elbow to the knee, for the reason that free and clean action follows such conformation. In these parts it will be noticed that most of the muscles extending and flexing the leg, are located between the elbow and the knee. If this region is long, the muscle must necessarily be long and that produces quick and easy action. The muscle of the fore arm flexes and extends the rest of the leg, and in order that these motions may take place with the least expenditure of power the course over which it must travel must be as short as possible; that is, the cannon running from the knee to the fetlock should be much shorter than from the knee to the elbow.

Mr. H. T. Helm has made a careful study of the effect that the proportions of these parts to each other have upon the horse's action. He has measured a great many horses and finds that their action in the fore legs seems to be governed by the proportionate length of the fore arm and the cannon. He found that Administrator has superior action in front, and that his cannon was $11\frac{3}{4}$ inches long, and the fore arm 21 inches long. About the same proportions were found to exist in the fore legs of George Wilkes, and there was no lack of knee action in his movement. The actual proportions were $10\frac{1}{2}$ to 20 inches. In Governor Sprague the cannon was 11 inches and the fore arm 21 inches, and here the front action was not quite as rounding as that of George Wilkes. In the instance of St. Lawrence, the proportions were $11\frac{1}{4}$ to 21 inches and the action was noted to be far reaching and gently curving. It will be easily understood that the strain upon the knees would be greater in those horses that were long in the cannons in comparison with the length of the fore arm, and it will usually be found that such a conformation predisposes a horse to weak knees. On the other hand when the fore arm is inordinately long the tendency is for the front legs to bend back at the knees and give rise to what is commonly termed calf knees.

57. Arms—Short, Thrown Forward. The humerus which forms the arm should be short and appear comparatively straight. When it is so, it gives a horse an upright appearance and adds to the latter's style.

58. Elbows—Free. The space between the leg and the body should permit of easy insertion of the hand. If the elbow is closer than this or tied in, as it is termed, the toes are usually thrown out; or if the opposite is the case, the toes are likely to be thrown in, which makes the action of the horse awkward and dangerous.

59. Fore Arms—Wide, Muscled. Perhaps the most important matter to notice in examining the fore leg is

the size of the fore arm, or the muscular development observable just below the juncture of the leg and the body. As fat accumulates very little there it is a safe criterion of the muscular development of the animal.

60. Knees—Wide, Deep, Straight. The knees should be broad in front, much broader than the rest of the leg, either above or below, and the pisiform bone, which is the bone forming the projection at the back of the knee, should be sharp and prominent, for to this some of the most important muscles of the fore leg are attached. Breadth is desirable in such joints, because of the fact that the concussion is more evenly distributed, and better spent by the many bones forming the joint, when their surfaces are large. The most common defects of the knee are calf knees, knock knees, knee sprung, speedy cut and scars.

61. Cannons—Wide, Short, Large Sinews. There should be very little shrinkage below the knee as the joints require as much support as possible. This defect of being tied in below the knee is one of the most common weaknesses to be seen in the fore legs of light horses. A light horse of common size should measure at least 8 inches at this point. The cannon should be short, wide and clean and the sinews should be back from the bone. It is sometimes noticeable that the cannon is thicker than usual which is generally caused by hard road work.

62. Pasterns—Sloping, Strong. The pastern should stand at an angle of 45 degrees with the ground, and with the cannon it should form an angle of about 135 degrees. When more upright than this, they will cause bone diseases, such as sidebones and ringbones, as the concussion is very severe in such instances. Moreover, it detracts greatly from the utility of the light horse, especially those intended for the saddle, as the step is short and stilted, and this is very disagreeable to the rider. On

the other hand, sometimes the pasterns of light horses, and of thoroughbred horses especially, are too long and slanting, which weakens them and ultimately ends in the snapping of the suspensory ligament, resulting in the horse "breaking down."

63. Feet—Dense, Waxy, Large. The foot should receive careful attention as it has an important part to play in the work of the horse, and it is subject to many defects and various kinds of unsoundness. It should be of firm texture, good size, moderately upright and thoroughly sound. It should have a healthy appearance which is indicated by an oily coat of natural wax. The frog should bear the mark of natural usage as a buffer, being spongy, and touching the ground at each step. The roof or sole of the hoof should be distinctly concave. Flatness, brittleness and contraction, are the three most common defects in horses' feet. It will be noticed in many instances that the bar of the foot has been cut away, so that the hoof splits from the heel towards the coronet. This is due to the blacksmith's practice of cutting away the bars that bind the foot together. When this is done the foot begins to spread and the crack ultimately extends as far as possible.

64. Ribs—Well Sprung, Deep, Close. The ribs should be well sprung from the spine and they should be close to each other. It will generally be found that horses having well sprung ribs always make a better appearance than those that are flat ribbed; and, in addition, they will be found to be easier keepers. It should be noted that the round ribbed horse always has the appearance of being inordinately long in the legs. This deception is due to the roundness of the body. It can easily be seen that from a side view the flat ribbed horse presents a body of deeper appearance and seemingly has shorter legs than the horse that is rounder ribbed.

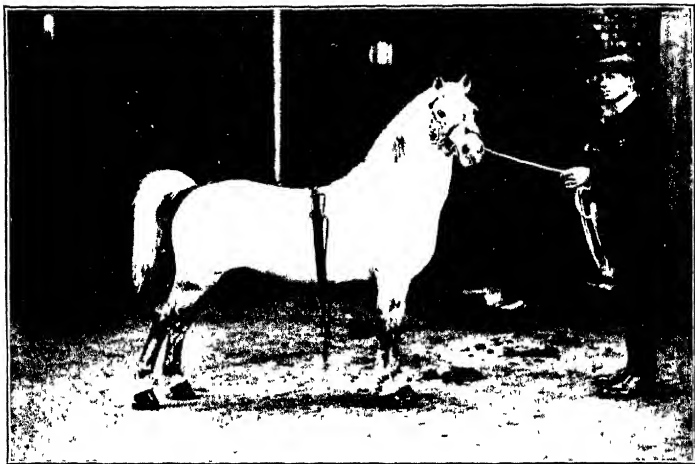
65. Back—Strong, Short, Muscled. In its proportion the body should be short above and long underneath.



The illustration on the right is a photograph of the hind quarter of St. SAVIOUR, a thoroughbred stallion, showing a clean, strong hock and properly set hind leg. The photograph on the left shows a curb on the right leg due to a weakly supported hock also improperly set.



The left illustration shows a hind leg too straight, while the right one shows the other extreme in being set too far back.



Welsh Pony Stallion, SHOOTING STAR. First prize at 1913 English Royal Show. Owned by Sir Walter Gilbey.

STANDARD FOR PONY.

BEFORE the establishment of the Hackney Horse Society in 1883, the dividing line between the horse and the pony in England was vague and undefined. It was then found necessary to distinguish clearly between horses and ponies, and accordingly all animals measuring fourteen hands or under were designated "ponies" and registered in a separate part of the Stud Book. This record of height with other particulars as to breeding, etc., serves to direct breeders in their choice of sires and dams. The standard of height established by the Hackney Horse Society was accepted and officially recognized by the Royal Agricultural Society in 1889 when the prize list for the Windsor Show contained pony classes for animals not exceeding 14 hands. The altered Polo rule which fixes the limit of height at 14 hands 2 inches may be productive of some little confusion; but for all other purposes 14 hands is the recognized maximum height of a pony. Prior to 1883 small horses were called indifferently galloways, hobbies, cobs or ponies, irrespective of their height.—*Ponics Past and Present, by Sir Walter Gilbey, Bart.*

DESCRIPTION OF WELSH PONY.

FOR THE information of those interested in this breed, the following descriptions, furnished to the Polo Pony Society for their stud book (Vol. V.) by the local committees, may be quoted: "HEIGHT—Not to exceed 12.2 hands. COLOR—Bay or brown preferred; grey or black allowable; but dun, chestnut or broken color considered objectionable. ACTION—Best described as that of the hunter; low 'dairy-cutting' action to be avoided. The pony should move quickly and actively, stepping out well from the shoulder, at the same time flexing the hocks and bringing the hind legs well under the body when going. GENERAL CHARACTER—The pony should show good pony character and evidence of robust constitution, with the unmistakable appearance of hardness peculiar to mountain ponies, and at the same time have a lively appearance. HEAD—Should be small, well chiseled in its outline and well set on; forehead broad, tapering toward nose. NOSTRILS—Large and expanding. EYES—Bright, mild, intelligent and prominent. EARS—Neatly set, well formed and small. THROAT AND JAWS—Fine, showing no signs of coarseness or throatiness. NECK—Of proportionate length; strong but not too heavy with a moderate crest in the case of the stallion. SHOULDERS—Good shoulders most important; should be well laid back and sloping, but not too fine at the withers, not loaded at the points. The pony should have a good, long shoulder blade. BACK AND LOINS—Strong and well covered with muscle. HINDQUARTERS—Long, and tail well carried, as much like the Arab as possible, springing well from the top of the back. HOCKS—Well let down, clean cut, with plenty of bone between the joint; they should not be 'sickled' or 'cow-hocked.' FORELEGS—Well placed; not tied in any way at the elbows; good muscular arm, short from the knee to the fetlock joints; flat bone; pasterns sloping but not too long; feet well developed and open at the heel; hoof sound and hard."—*Ponics Past and Present, Sir Walter Gilbey, Bart.*

This not only adds to its strength, but it gives the legs free play and insures a balanced stride. The horse of this conformation under the saddle will unite himself more quickly and better, while the same horse on the line, or in harness will have a freer and more balanced stride. It is the opinion of many that the roach back is an evidence of strength. It is the most undesirable feature in a horse for the saddle, and it is, to say the least, an eyesore in road or in carriage horses.

66. Loin—Short, Broad, Muscled. It is a defect of many horses to be light and narrow at the juncture of the body and the hind quarter. If the loin is long or slack, that is, if the distance is great between the last rib and the hip bone, the horse is likely to be weak in the coupling and deficient in action, and when this is viewed from the side, it will be noticed that the hind foot fails to reach the point where the front foot left the ground. This probably is due more to lack of muscle over the loin than to any other defect.

67. Croup—Long, Muscular. The part included in the hind quarters should be critically examined, for, as it has been previously explained, it is in this region that the propelling power resides. The haunch or croup should be long and on account of the improved appearance it should be comparatively straight. When the croup is long, it allows a greater play of the main muscles that are located in this region. It will be noticed in nearly all fast trotters that the croup generally has this characteristic. Length of muscle here as elsewhere contributes to speed.

68. Thighs—Muscular, Deep. The thigh should be full and plump with muscle which should also extend as far down towards the hocks as possible. Some horses have this feature so strongly developed that the muscle continues to the hock and gives the latter a thicker appearance. The thigh should be long, making the hocks low, as this contributes to a long stride.

69. Quarters—Heavily Muscled. The quarters viewed from behind should show a heavy mass of muscle between the legs. Perhaps there is not another part of the muscular system that shows a greater variation in development in different horses than the quarters, for while some will be cat-hammed there are others surprisingly full in this part, with deep, hard muscle.

70. Hind Legs. The set of the hind legs has a direct bearing on their liability to diseases. A leg that is bent too far forward is likely to develop a curb, while one that is too straight is more subject to fullness in the hock region, predisposing it to either thoroughpin or bog spavin. In looking from the side at a leg that has correct conformation, a plumb line from the center of the hip joint should equally divide the gaskin and the foot. Dropping a plumb line from the point of the buttock it should run parallel with the line of the cannon. From behind, the same line should equally divide the hock, cannon, pastern and foot.

71. Hocks—Wide, Straight, Clean. The hocks should be clean and broad and the point should be prominent as the leverage of the most powerful muscles attached here depend to a great extent upon this. There should be no gumminess about the hocks; the web should be especially clean and free from all fleshiness or puffs of any kind. In running the hand over the hock, all the depressions that are characteristic of the sound hock should be easily felt and the bone should feel firm without the least indication of unsoundness of any part. Too much attention can hardly be given to this joint as it is one of the most important in the whole frame.

72. Hind Cannons—Wide, Short, Clean. The hind cannons should be comparatively short as such a conformation gives the hind leg a longer stride while at the same time allowing the feet to keep under the body more. They should also be wide for that gives better at-

tachment to the tendons and especially if the width continue just below the hock it materially strengthens that part. When the support for the bones of the hock is slight and narrow at the top of the cannon there is greater susceptibility to curbs on account of the weakness of that region. The fetlock joint should be of normal size with good width and particularly free from any puffiness indicating windgalls.

73. Hind Pasterns—Sloping, Strong. The slope of the hind pasterns is not of such importance as that of the front pastern for the reason that it is seldom that this part will be found too straight in light horses. There is less concussion for the hind foot to stand, consequently there is less need for the pastern to be very sloping. The pasterns should be of medium size and length so that they may be strong. Freedom from thick, coarse skin and hair is desirable for in the instance of such there is less susceptibility to scratches.

74. Hind Feet—Dense, Rounded. The hind feet should have the characteristics that have been described in the reference to the desirable points of the fore feet. It may be noted in addition that the hind feet are more inclined to become narrow in front and not have the nicely rounded surface that is desirable in a good foot. The sides of the foot viewed from in front very often appear to have shrunken some, making a ridge down the center of the foot from the hoof head to the toe and leaving the sides flat. Narrowness at the hoof head usually accompanies this. The foot should be dense in structure, medium in size, with strong, wide heel and full front.

SCALE OF POINTS FOR LIGHT HORSES—GELDING.

GENERAL APPEARANCE:

	Perfect Score
Form, symmetrical, smooth, stylish.....	4
Quality, bone clean, firm and indicating sufficient substance; tendons defined; hair and skin fine.....	4
Temperament, active, kind disposition.....	4

HEAD AND NECK:

Head, lean, straight.....	1
Muzzle, fine, nostrils large; lips thin, even; teeth sound	1
Eyes, full, bright, clear, large.....	1
Forehead, broad, full.....	1
Ears, medium size, pointed; well carried, and not far apart	1
Neck, muscled; crest, high; throatlatch, fine; windpipe, large	1

FORE QUARTERS:

Shoulders, long, smooth with muscle, oblique, extending into back.....	2
Arms, short, thrown forward.....	1
Fore arms, muscled, long, wide.....	2
Knees, clean, wide, straight, deep, strongly supported	2
Cannons, short, wide; sinews, large, set back.....	2
Fetlocks, wide, straight.....	1
Pasterns, strong, angle with ground 45 degrees.....	3
Feet, medium, even size; straight; horn dense; frog large, elastic; bars strong; sole concave; heel wide	6
Legs, viewed in front, a perpendicular line from the point of the shoulder should fall upon the center of the knee, cannon, pastern and foot. From the side, a perpendicular line dropping from the center of the elbow joint should fall upon the center of the knee and pastern joints and back of hoof.....	4

BODY:

Withers, muscled and well finished at top.....	1
Chest, deep, low, large girth.....	2
Ribs, long, sprung, close.....	2
Back, straight, short, broad, muscled.....	2
Loin, wide, short, thick.....	2
Underline, long; flank let down.....	1

HIND QUARTERS:

Hips, smooth, wide, level.....	2
Croup, long, wide, muscular.....	2
Tail, attached high, well carried.....	1
Thighs, long, muscular, spread, open angled.....	2
Quarters, heavily muscled, deep.....	2
Gaskins or Lower Thighs, long, wide, muscular.....	2
Hocks, clearly defined, wide, straight.....	5
Cannons, short, wide; sinews, large, set back.....	2
Fetlocks, wide, straight.....	1
Pasterns, strong, sloping.....	2
Feet, medium, even size; straight; horn dense, frog large, elastic; bars strong; sole concave; heel wide, high	4
Legs, viewed from behind, a perpendicular line from the point of the buttock should fall upon the center of the hock, cannon, pastern and foot. From the side, a perpendicular line from the hip joint should	

fall upon the center of the foot and divide the gaskin in the middle; and a perpendicular line from the point of the buttock should run parallel with the line of the cannon..... 4

ACTION:

Walk , elastic, quick, balanced.....	5
Trot , rapid, straight, regular, high.....	15
Total	100

IV. JUDGING HORSES IN THE BREEDING CLASSES.

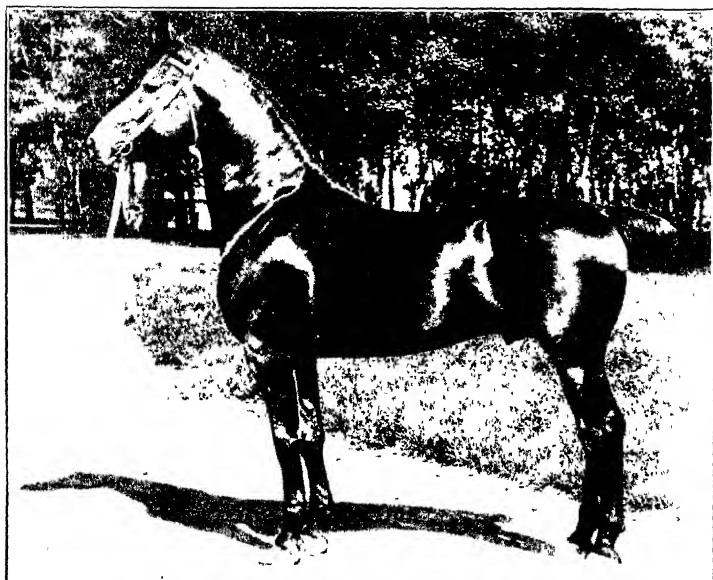
The preceding discussion has most to do with the judging of the various types of the horse in use for pleasure or for work; so that it is necessary to present some details that should be observed in making awards in the breeding classes. In this work the judge must closely discriminate between the peculiar characteristics of the sexes and also employ much judgment in determining the development according to the age.

75. Sex Characteristics. Preceding birth and for some time in foetal life, there are no evidences of sex. Such are apparent at birth, but it is not until the approach of puberty that the sex characteristics referred to here begin to develop. After this period is reached the sexes begin to diverge from each other, the male acquiring characteristics that are distinctly masculine, while the female acquires others peculiarly feminine in that they are strikingly different from those of the male. The reproductive cells of each seem through their characteristics to influence the peculiarities of the sexes in a remarkable manner.

76. Differences in Disposition. In all classes of farm live stock there are very noticeable differences in disposition, that may be credited to the influence of the sex. The active disposition of the male animal oftentimes is forced to spend itself in the development of viciousness and it cannot be disputed that such has been true of many of the best breeding sires, especially among those of the lighter breeds of horses and the dairy breeds of cattle.

The difference in the nature of the sexes is even characteristic of the reproductive cells—the sperm or male cell being active and smaller, while the ovum or female cell is larger and more stable. From this condition through the various stages of life the differences in the disposition of the sexes is easily traceable. The lamb of the male sex becomes combative and more active in disposition as he develops while the ewe lamb loses the early activity that was common to all and develops into the gentler ewe; the calf of the male has a fierceness of mien that seeks active expression in imaginary combats, becoming easily excited to anger, when it is noticeable that the suppliant bawl has become a fierce roar; while the cow has lost the playful energy that she had as a calf and now has none to spare for anything but her quiet vocation of making milk; the colts tend to develop the same restless activities while the fillies assume the quieter quality of mind common to maternity, and in like manner the pigs separate in their dispositions as the sex characteristics become pronounced. Thus in all live stock the changes of disposition are traceable to sexual development and it is because of the close connection between the two features that many breeders consider the characteristic disposition valuable indications of future usefulness for breeding purposes.

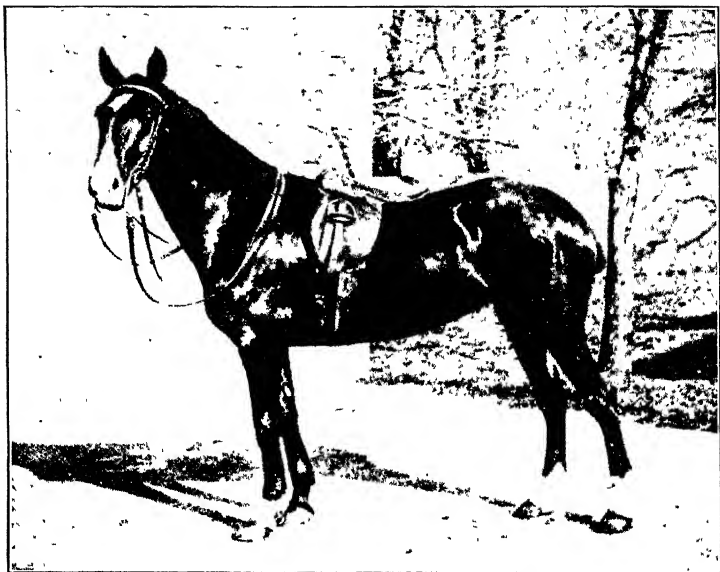
77. Differences in Form. In the development of the sexes marked differences in form result. The true male form is heavier at the shoulders than the female while the latter is wider in the region of the pelvis. This should be borne in mind in critically examining animals of the different sexes, for it may oftentimes prevent an adverse criticism which should be favorable comment. It is not infrequent to hear the remark passed that a ram for instance, in a breeding class, would be an exceptionally good sheep if he were as wide behind as he is in front. This is thought by some to be the striking defect of our mutton breeds (and perhaps it is) but in



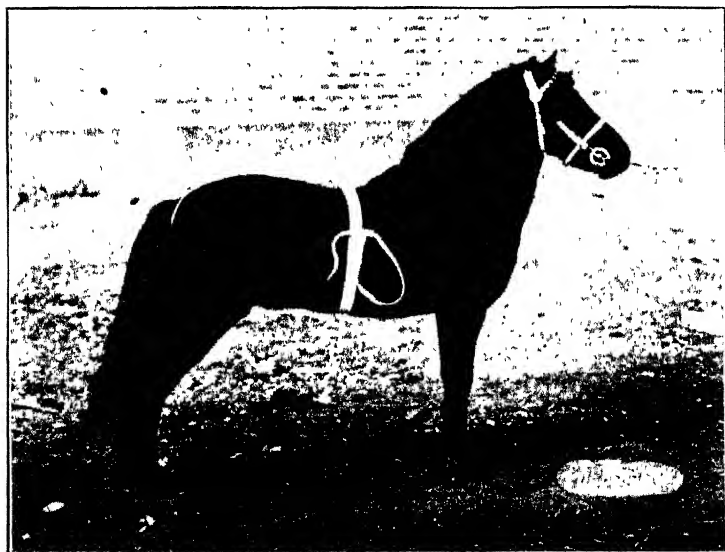
American Standard Bred Stallion, CARMON, at the head of the Government Stud at Fort Collins, for breeding American Carriage Horses



Morgan Stallion, GENERAL GATES At head of the Stud at the U. S. Morgan Horse Farm, Middlebury, Vt.



A good type of Polo Pony. Bred on a Western Ranch.



A prize winning Shetland Pony Stallion

many instances it is but the universal pattern that nature has adopted for the male form. A male of any class of stock should be expected to be wider in the chest than behind though it should not be weak in the latter part. Width of hip, however, is not the chief qualification of the female form; depth in this region or length of the barrel and from rib to hip, is of more importance as this makes provision for the proper growth of the foetus.

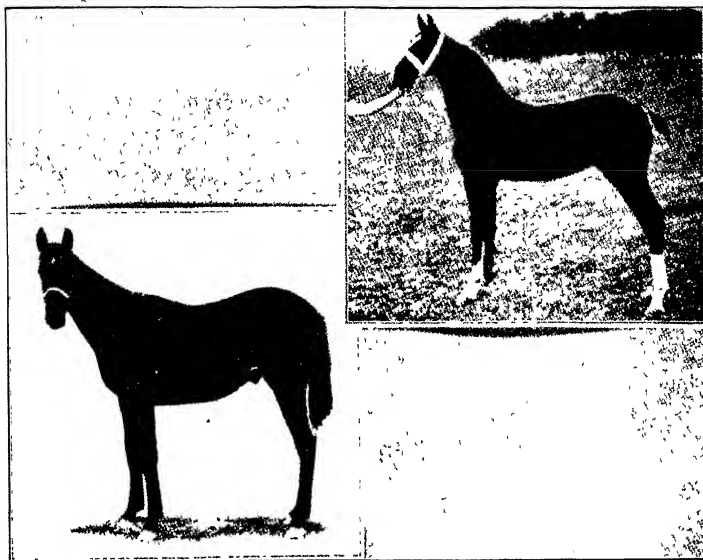
78. Variation in Features. There are many marked variations in the features that are characteristic of the difference in the sexes. In the stallion the face has a harder look and the head is larger. The neck is fuller and the crest or swell of the neck is very pronounced and surmounted with a heavy mane. The mare has a slimmer face with a softer expression, the neck is thin and often ewe shaped and the mane light and fine. In cattle the face of the bull is more or less burly and covered with wavy hair, the horn is strong and inclined to roundness while the neck is thick and stout with a full crest. In the cow the face is long, free from wavy hair, the horn light and flat and the neck thin and in-curved on the top line. In sheep the face of the ram is shorter and heavier and the neck has a heavy "scrag" or crest. The ewe's face is finer and the neck much lighter. In swine the boar's head is short and inclined to coarseness and the tusks are strong and large. The neck is full and the bristles abundant and with age the shields (thickening of the hide over the shoulder blades) develop. The sow is smaller in the face, the neck much lighter and finer just at the point where it joins the head. These things are all features of the sex characteristics and their value, which will be discussed in what follows, will indicate the degree to which they should be looked for in all breeding classes.

79. Relation of Sex Characteristics to Sterility. When the sex characteristics that have been described

fail to develop in the mature animal, it is invariably good evidence of the lack of procreative power. The effect of castration is evidence of the fact that if anything interferes with the maturity of the reproductive organs, the sex characteristics fail to develop. If the operation is performed early in life there is a decided approach to the characteristics of the feminine type in the instance of geldings, steers, wethers and barrows. On the other hand, it is equally true of the opposite sex—thwarted or impaired development results in the production of the characteristics that are peculiar to the male type. As an instance of this the occurrence of “free martins” in cattle may be cited. This term is applied to twins in which the one is a male and the other a female. The female usually possesses the sex characteristics of the male as she has the coarse appearance in the head, neck and horn, and when this is so it will be found that she is invariably infertile. Extreme effeminacy on the part of the male is equally indicative of sterility as may be attested to by the effeminate appearance and the sterility that results from inbreeding some classes of stock. Low, referring to this, says of closely in and inbred animals, “They become as it were sooner old; the males lose their virile aspect and become at length incapable of recreating their race.” Walker (Intermarriages) cites many instances that have been observed by different poultry breeders, bearing out the proposition that sterility through close in and inbreeding with some animals is followed by the loss or interchange of sex characteristics.

80. Relation of Sex Characteristics to Prepotency.

The non-development of the sex characteristics in the male is indicative of the lack of vigor and that in turn has a close relation to prepotency or the impressive powers of a sire. Effeminacy means a lack of tone in muscle and loss of vigor and this is very observable in sires lacking in impressive powers, while the most noted

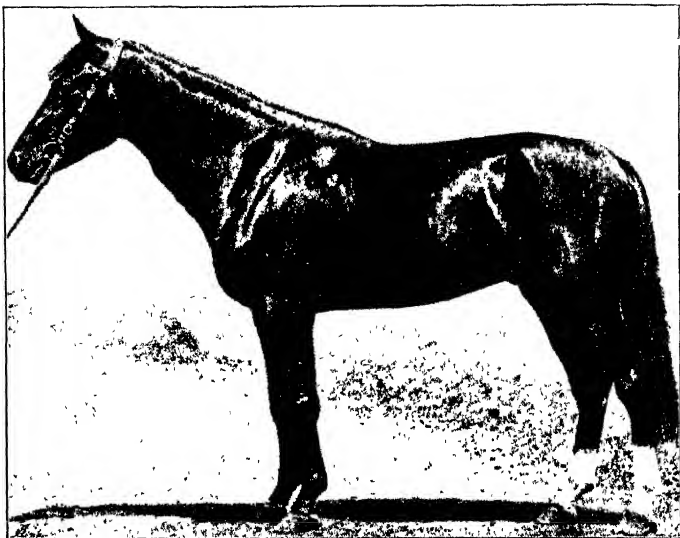


A yearling Hackney filly, winner of numerous prizes in the leading British show rings.

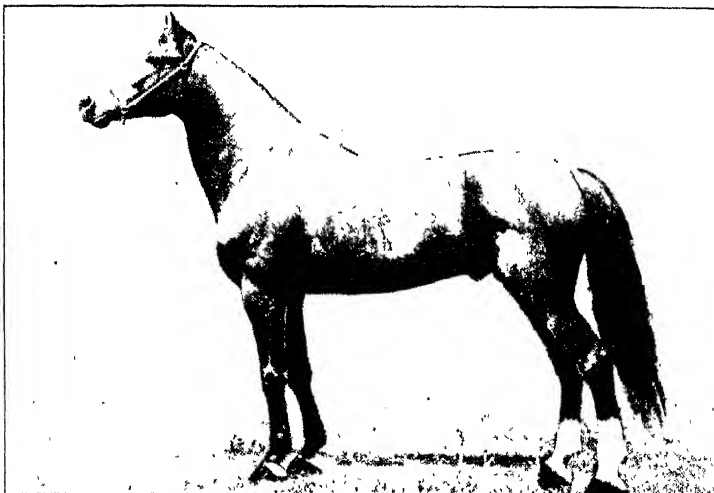
A thoroughbred yearling, Disguise II, owned by James R. Keene. This American bred horse finished third in the Derby, and afterwards beat the winner of the race, the Prince of Wales' Diamond Jubilee.



A group of French Coach yearling fillies at Oaklawn Stock Farm, the property of Messrs. Dunham, Fletcher & Coleman, Wayne, Ill. These fillies were sired by Perfection and they show the form and quality desired in coach fillies of this age.



Standard bred trotting stallion, ALLERTON, when a three-year-old with a record of 2:12, formerly champion trotting stallion, and within recent years the leading sire of standard trotters. Sired by Jay Bird 5060, and owned by C. W. Williams, Galesburg, Ill.



American standard bred stallion ALLERTON, 2:09 $\frac{1}{4}$. Reproduced from a photograph taken when 14 years old. A comparison of this with the illustration shown above, which was taken when three years old, indicates the development which takes place in a stallion as he advances in years. A comparison will also add to the prestige of this horse, for it shows how well preserved in form he is, without any blemishes, after having passed through severe campaigning.

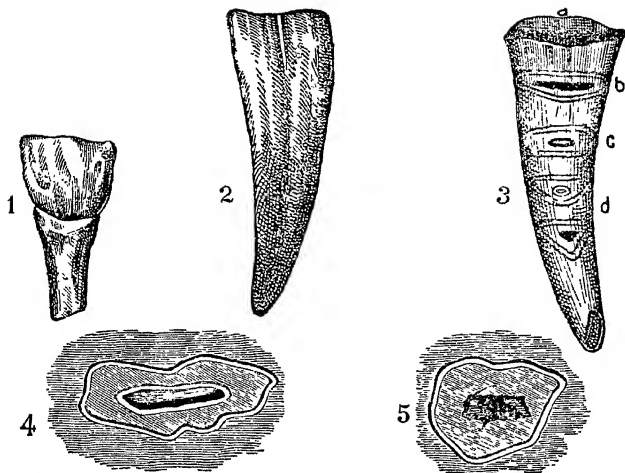
sires in the history of breeding have been remarkably virile with the characteristics of masculinity unusually developed.

81. The Stallion Classes. Excepting the sex characteristics the stallion should have the qualities that have been described in the class for geldings. The stallion should have the determined expression, the hard features, the high crest and full neck, that are evidences of masculinity. With these there should be the active, vigorous temperament, which also indicates virility. The testicles should be normal in size and both should be visible in the sac or scrotum, for impotency is often indicated by their non-appearance.

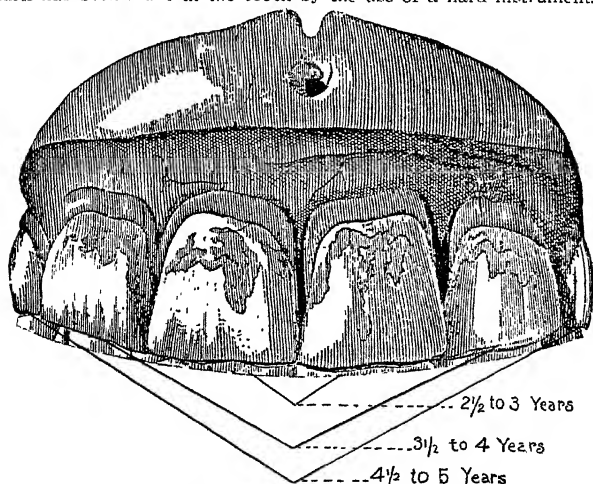
It is a frequent subject for discussion as to whether or not the stallions in some classes should be judged solely as to their individual merit or also include the merit of their pedigree, performance and progeny. Usually the conditions relating to the awarding of the prizes are explicit enough to avoid such a discussion but where they are not it is best to consider in making awards all the attributes that will add to the value of the stallion. Pedigree in a breeding class has a value, so has performance; and for this reason they should be given consideration along with the personal merit of the stallion and his progeny. In the instance of a standard bred trotter it is assumed by some that the fact that the stallion complies with the standard is sufficient consideration to give his breeding but those who have given the matter any study will concede that there is a vast difference in the value of the pedigrees of standard horses. The judge should be able to discriminate between pedigrees and also to be broad minded enough to include in his estimate of the different stallions before him the other characteristics that make the animal valuable for breeding purposes.

82. Importance of Correct Conformation. In the breeding classes special attention should be given to the conformation. A defect of conformation even in the smallest particular is very apt to be transmitted and for that reason it should be discountenanced in breeding stock. It is generally known that even such a slight matter as a twist of the fetlock, or the turn of the foot in action is very likely to pass from a stallion to all his get. Considering however greater defects such as a curby hock, a weak knee or other malformations, it is certainly the duty of the judge to pronounce against them. To present this feature plainly it may be stated that a breeder would be better justified in using a stallion that had a spavin on a well constructed hock than one that was without a spavin but had a hock that was very defective in conformation; the reason being that in the instance of the well constructed hock with a spavin it is certain that the horse was subjected to a severe wrench or injury of some kind else the spavin would not be there. In the instance of the horse with the badly constructed hock it needs only the opportunity, which occurs in nearly all kind of work, to develop a spavin and the reason there is not one there is solely because extra care has been given to the protection of this part. Breeding animals of this kind may be so carefully tended and pampered that they fail to show such diseases as would be produced by their conformation under the ordinary stress of labor.

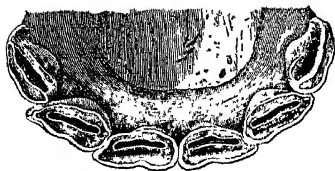
83. Hereditary Diseases.. In these classes it is of importance to have in mind the diseases that are known as hereditary. This term does not imply that the disease is directly transmitted but that a horse having them transmits to his get a decided tendency to contract them. The newly born foal never shows them, but from its parent it inherits the defects of conformation that predisposes it towards these diseases. The Royal Commission composed of the leading veterinarians of England have decided that the following diseases in horses are heredi-



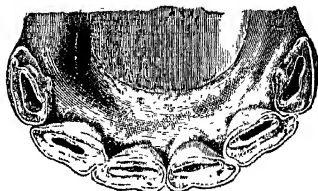
Sketches of horses' teeth, showing—1, a temporary incisor of characteristic shape, 2, a permanent incisor, broader and longer than No. 1, 3, a permanent incisor with lines indicating the appearance of the tooth as it is subjected to wear. At "A" the unworn surface of the new tooth is shown. At "B" the mark is indicated with the general shape of the table. At "C" it is noticeable that the mark becomes much smaller while at "D" the triangular shape of the tooth that is well worn makes its appearance; 4, shows the natural mark and table of a horse's tooth. It will be noticed that there is a ring of enamel around the black mark or center, 5, this sketch shows the table of the horse's tooth that has been "Bishoped" or fixed so as to bear some resemblance to a young tooth with the natural mark. This black mark has been made in the tooth by the use of a hard instrument.



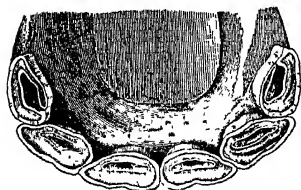
Sketch of the permanent incisors, indicating the order in which they appear in pairs. The central pair of permanent incisors in both the upper and lower jaws appear when the horse is about two and one-half or three years of age, the next pair replace the temporary incisors when the horse is about four years of age, and the outside pair, making a full mouth, usually appear at five years of age.



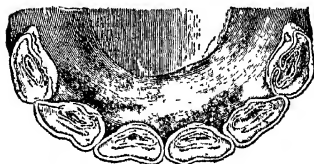
FIVE YEARS
LOWER INCISORS



SIX YEARS
LOWER INCISORS

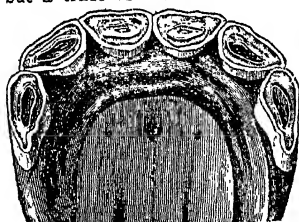


SEVEN YEARS
LOWER INCISORS

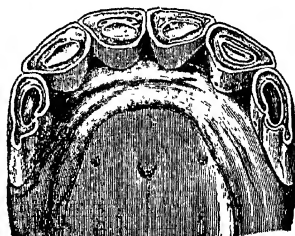


EIGHT YEARS
LOWER INCISORS

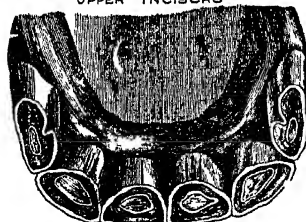
At five years it will be noticed that the marks are very distinct and the tables worn but slightly in all of the incisors. At six years the center pair in the lower jaw show some wear, the mark becoming smaller. At seven years the second pair have nearly lost their marks, while at eight the third or outside pair show considerable wear with but a trace of the mark.



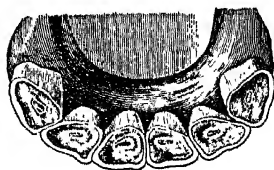
NINE YEARS
UPPER INCISORS



TEN YEARS
UPPER INCISORS

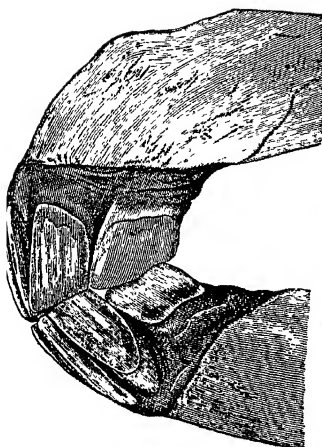


ELEVEN YEARS
UPPER INCISORS

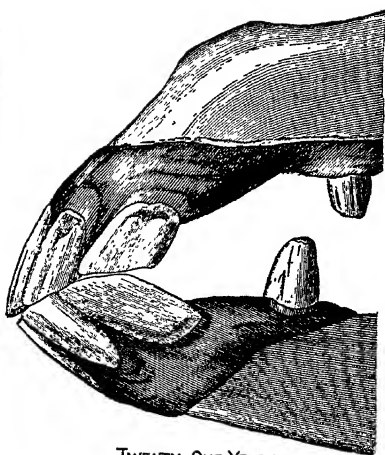


FIFTEEN YEARS
LOWER INCISORS

Passing to the permanent incisors in the upper jaw at nine years the central pair have almost completely lost their mark. At ten those adjoining these have reached the same condition, while at eleven the marks have about vanished from all of the permanent incisors. It will be noticed that as the age advances the appearance of the worn tables assumes a more triangular form.

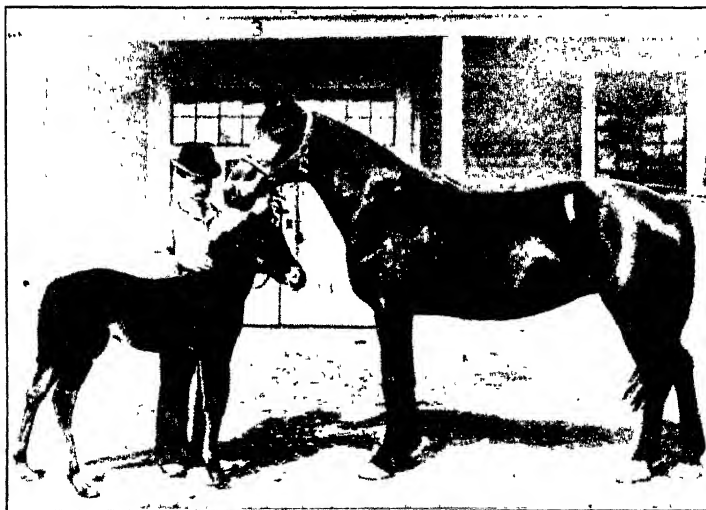


FIVE YEARS



TWENTY ONE YEARS

Comparison of a five-year-old mouth with one that is twenty years old, showing the marked contrast that develops, as age advances, in the slope of the teeth as viewed from the side. To Goubaux and Barrier's "Exterior of the Horse" the author is greatly indebted for the prints of horses' teeth which have been shown. These have been modified somewhat to bring out more clearly the necessary distinctions.



NANCY HANKS 2:04 and foal by ARION 2:07 $\frac{1}{2}$. This foal shows the qualities desired in a trotting breed weanling, while the mare in form illustrates a very desirable type of standard bred brood mare.



Champion draft horses in harness, in class for six-horse team to wagon, wheelers weighing not less than 3,800 lbs., and leaders not less than 3,400 lbs., at Chicago International several years in succession. They are all Clydesdales and owned by Nelson Morris & Co., Chicago, Ill.

tary: Roaring, whistling, sidebone, ringbone, navicular disease, curb, bone spavin, bog spavin, thoroughpin, grease, shivering and cataract.

84. The Mare Classes. In addition to the lighter head, neck and fore quarter which is the proper type of the sex, the mare should specially differ from the stallion in the roominess of the barrel. The ribs should be deeper and the body less compact and with much more length of loin than in the case of the stallion.

85. Colts and Fillies. This is probably the hardest class for the judge to satisfy himself in rendering decisions. This class cannot be judged without considering the possibilities of the future which comes only from experience. It is the growthy colt or filly with ideal limbs and rather lanky body that is likely to prove the superior animal when mature; while the compact, smooth bodied colt or filly that is not constructed on correct mechanical principles is likely to develop into a disappointment.

V. ESTIMATING THE AGE OF HORSES BY THEIR TEETH.

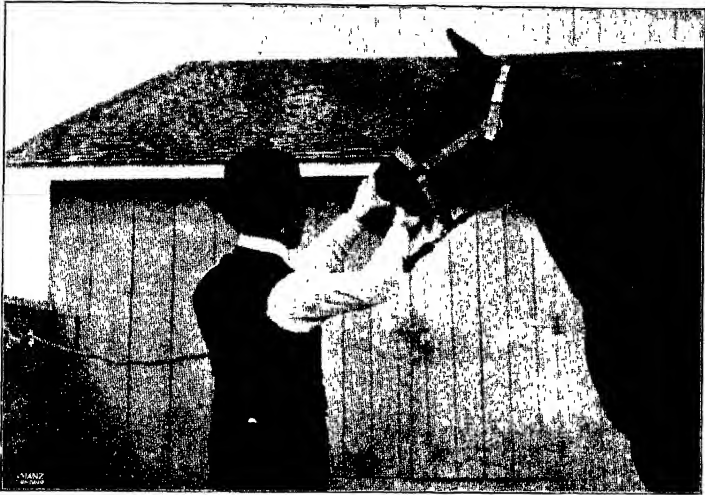
It is necessary to know the indications of age as they appear in the teeth that no animal may be unfairly classed with those that are younger. The indications become in a degree satisfactory to those who have proven them many times by personal observation and experience in noting the differences that exist. It is to be remembered, however, that the foods fed them have a marked influence on the wear of the teeth, thus making differences which are not solely due to age. Liberal feeding which favors early maturity is also likely to affect the appearance and arrival of the incisors.

86. Appearance of Incisors. The difference in the appearance of the milk teeth or temporary incisors and the permanent incisors is readily understood after they have been once inspected. The temporary incisors are slender, narrow and constricted at the neck and very white, while the permanent incisors are broader, thicker and usually of a light yellowish tinge.

87. Order of Appearance of Incisors. The permanent incisors of both the upper and the lower jaws appear at the same time so that it is only necessary to refer to the upper. There are six permanent incisors in each jaw in the full mouth and these make their appearance in pairs about as follows: The pair in the center are the first to appear and they have displaced the temporary pair and are full grown when the colt is from $2\frac{1}{2}$ to 3 years old. The second pair or the two next to these are fully grown at $3\frac{1}{2}$ to 4 years and the third pair have displaced the two corner temporary incisors at $4\frac{1}{2}$ to 5 years of age. At this time the horse usually has a full mouth.

88. Disappearance of the Tables. The best indication of the age from five to ten years is the order of the disappearance of the tables or marks in the incisors. At five years the tables in the central pair of incisors of the lower jaw show some wear but it is not until the horse is about six years old that they have almost disappeared. At seven years of age the "swallow-tail" as it is called, or the nick in the upper corner incisor appears. At this age also, the two incisors next to the central pair lose almost all traces of their tables through wear, and at eight years the corner incisors or outside pair are so worn as to be almost free from any appearance of having tables. At nine years of age the tables have disappeared from the central pair of incisors in the upper jaw; at ten the marks in the next pair in the upper jaw are about worn out, and when eleven is reached the tables have almost disappeared from the corner pair of the upper row of incisors. Sometimes the teeth are "bishoped," that is, marks are made in the teeth to represent tables thus making the horse appear to be younger by the tables of its teeth. This treatment may always be told from the unnatural appearance of the table as the normal tooth always has a rim of enamel around the tables.

After a horse passes beyond the age mentioned it is a difficult matter to make any further estimate with any de-



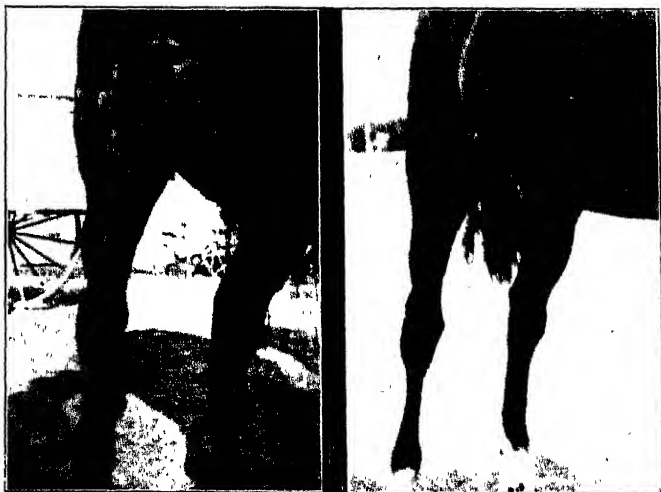
An easy and satisfactory method of opening a horse's mouth. The two thumbs are inserted just back of the incisors and the lower is pressed down so that the horse drops the lower jaw. It is usually easy in this way to make observations regarding the teeth



Proper method of lifting and holding the foot of a horse. In seeking to lift the front foot of a horse the hand should be run over the cannon in the manner indicated in one of the photographs. Usually a horse will lift his foot as soon as this is done. To hold it firmly without much effort, the proper plan is to hold the toe with the foot doubled against the elbow as shown in the above photograph.



A fully developed bog spavin is shown on the left leg in the right hand illustration, while the one in the left illustration shows a large ringbone at the base of the pastern.



A clean, clearly defined hock appears in the photo on the right shown from the point of view most likely to discover bone spavin. The photo to the left shows this, as a spavin may be clearly seen at the inner base of the right hock.

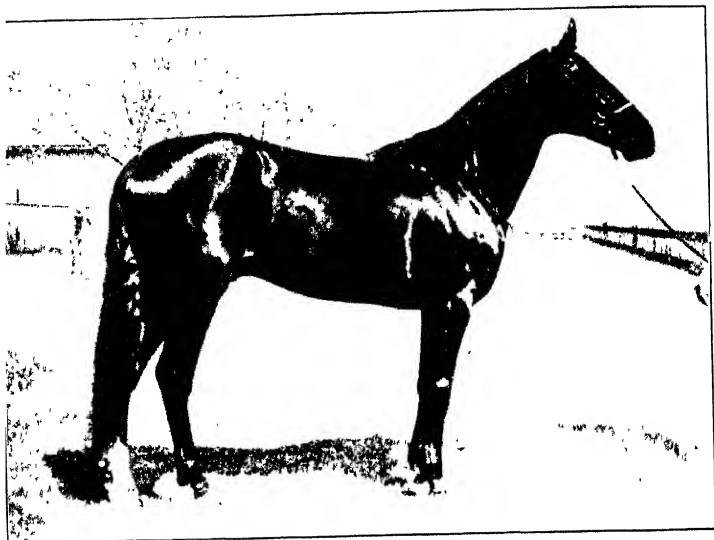


Photo by G. A. Tadman.

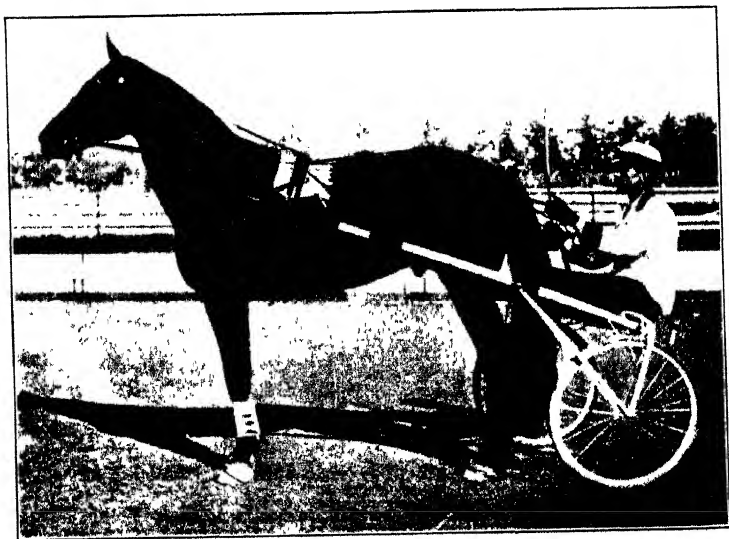
The illustration to the right shows a cocked ankle, while the other one is a photograph of a large sidebone which may be seen on the outside of the right leg at the junction of the pastern and foot.



Prize winning Mammoth jack, JUMBOAK, owned by W. R. Goodwin, Jr., Oakhurst Stock Farm, Napersville, Illinois. In size of bone and general form this jack shows the characteristics which are most sought in this breed. First prize at Illinois State Fair, 1900; height, 15.3; weight, 1,100 lbs. at three years old. Sold for \$1,000.



THE HARVESTER; champion trotting stallion of the world. Record 2.01. Bred at Walnut Hall Farm, Kentucky. Owned by C. K. G. Billings, New York.



MINOR HEIR; 1.58½ champion pacing stallion under present ruling conditions. Owned by International Stock Food Co., Minneapolis, Minn.

gree of certainty. As the age increases, however, the upper surface of the incisors appear more triangular and the teeth spring from the jaw with a greater slope.

VI. EXAMINATION FOR UNSOUNDNESS.

89. A Blemish Different from Unsoundness. A blemish is something that depreciates the value of a horse without interfering with its usefulness. Such injuries as wire cuts mar the appearance of a horse and are properly called blemishes, while unsoundness include spavins, curbs, ringbones and all other diseases that lessen the usefulness of a horse in its sphere.

90. Decayed and Worn Teeth. In examining a horse for unsoundness it is well to follow a regular order beginning with the teeth. The best indication of decayed teeth or any similar unsoundness of the mouth is the odor that comes from it or attaches itself to the hand on the introduction of the latter. If the outer edges of the incisors are broken and worn away, it is an indication that the horse is addicted to "cribbing" in the stable.

91. Discharges from the Nostrils. The nostrils should be of a fresh pink color, somewhat moist, but there should be no discharge from them. If there is, glanders or distemper may be suspected, which should lead to a trial of the mallein test if there is any suspicion of the former.

92. Impaired Vision. In regard to the eye there are many defects of vision which can hardly be termed unsoundnesses, yet they should be carefully looked for. A horse by its action will usually indicate if the eyesight is good. Stepping inordinately high or an inclination to shy readily indicate defective vision. By moving the hand gently in front of the eye, blindness may generally be discovered if the eye is so affected. The hand should be moved slowly for if the motion is made quickly the influence of the air on the eye will induce the horse to shut it though it may not have seen the motion of the hand.

93. Defective Hearing. Defects of hearing are more common than is ordinarily supposed and they can usually be foretold by the action of the ears. Rigid ears indicate that the hearing has been lost. On the other hand when the ears are used excessively there is reason to suspect that the eyesight is not as perfect as it should be and on that account the horse is trying to make its ears assist its eyes by following closely every sound.

94. Sweenied Shoulders. Passing to the shoulder it should be closely observed for the presence of sweeny. This is a shrinkage or atrophy of the muscles of this region leaving the shoulder appear flat and the blade bare of muscle.

95. Capped Elbows. On the point of the elbow, shoe boils or chapped elbows may be frequently seen. The point of the elbow is unduly enlarged by the accumulation of matter. It is a blemish as it is unsightly though not interfering with the horse at work.

96. Splints. Continuing down the fore leg, splints should be looked for on the cannon. They may be found on almost any part of this region but some care is necessary not to mistake the ends of the two small bones, that are associated with the cannon, for splints. In some horses the ends of these bones are surmounted with noticeable knobs. If these lumps are found on both legs in exactly the same place, it may be taken for granted that they are natural. When the splint is located at the back of the leg near the tendon or close to the knee joint, so as to interfere with the action, it is in the worst place that it is possible to have it. A small splint in a position on the leg where it is not likely to cause lameness is not considered by most judges to be more than a blemish. The fact that splints on young horses very frequently disappear in a draft horse in a year or two is sufficient reason for overlooking this defect when it is present in young animals.

97. Ringbones. These are generally located on the pastern. There are two forms of it, called high and low ringbone, depending on the location. Ordinarily it is situated at the hoof head where the foot joins the pastern and it may be on any one of the four feet. Usually it can be seen because of the prominence produced but the hand should be passed over the part that a small form of it may not escape detection.

98. Sidebones. By pressing the thumb and the fore finger around the hind quarter of the front foot this disease may be easily detected. It is common to the front feet only. Small, hard prominences may be found on the side of the pastern just above the foot in horses that have them. They were originally cartilage but become ossified and solid, causing pain and considerable lameness especially when the horse having them is driven on hard roads.

99. Quarter Cracks and Sand Cracks. The feet are subject to many forms of unsoundness and among the most prevalent are sand cracks and quarter cracks. In very sandy districts during the hot days of summer when horses are driven considerable the hoof becomes so heated that it cracks and in time results in a very troublesome disorder. Usually this defect originates from weak feet. Quarter cracks are very similar to sand cracks excepting that they are seen on the quarters of the hoof. They extend from the coronary band or the hoof head to about the middle of the hoof in cases of ordinary severity. Looking at the bottom of the foot there should be no cracks running from the bars to the top of the hoof. Large cracks here are very common owing to the general practice of cutting out the heels in shoeing.

100. Corns. These are generally located in the corner of the heels and their presence may be more or less indicated by the way a horse will shrink when the sole of the foot is hit in that region with the handle of a knife.

101. Thrush and Scratches. Thrush is a diseased condition of the foot in the region of the frog and invariably makes its presence known by the disagreeable odor that comes from it. Scratches occur in the back part of the pastern, and, while not properly an unsoundness, they cause the animal affected a great deal of pain and annoyance. It is a condition due to the filthiness of this part and will generally disappear before cleanliness and antiseptic lotions.

102. Locating Lameness. In locating lameness in the leg, it should be borne in mind that it is the sound limb that the horse puts down with the most confidence and when the ailing leg comes to the ground an effort to ease it is made by throwing the head up. When a horse shows lameness in the front legs, if the trouble is in the shoulder the leg will usually be flexed at the knee when standing at ease; but when the sprain or lameness is below the knee the affected limb will be extended. When sore on both front feet they will be extended as far as convenient.

103. Thoroughpin. In detecting diseases in the region of the hock or in fact in any other part, it is absolutely necessary to first know the outlines of the perfect structure. This has special application to the diseases of this region; for there are many that may show but a very slight variation from the normal condition and thoroughpin is one of these. Thoroughpin is located between the tendon of the hind leg and the bone and appears just above the hock. It consists of a soft swelling that may be pushed from side to side.

104. Curb. Curb, which occurs just below the hock and to the rear, is a thickening of the ligaments in that region. By looking at the leg from the side it may be easily noticed as it is a variation from the straight line which should run from the point of the hock down towards the end of the cannon.

105. Bone Spavin. The most common trouble of the hocks, and the worst of all, is bone spavin. To detect this, it is best to stand in front of the horse and take a position so that in looking back the inner outline of the hind leg may be seen very clearly. This is a bone deposit which nature has thrown out to strengthen an otherwise weak joint and when it has developed it ties the joint so that it interferes with the proper action of the horse. The hind leg instead of coming down on the heel as it should in a sound limb, is thrown forward so that the toe reaches the ground first and the stride is unnaturally shortened, and lameness frequently results. Occult spavin, that is where the deposit is not apparent to the eye but hidden in the joints, is very hard to determine; the usual method of detection is to lift the suspected leg and then, starting the horse quickly, observe the result when the foot reaches the ground. Undue shrinkage indicates the presence of spavin in this form.

106. Bog Spavin. Bog spavin is usually associated with thoroughpin and it is very similar to the latter; differing from it only in location. In the natural depression that occurs on the inner and front part of the hock, the oil from the joint accumulates and forms a soft swelling commonly known as bog spavin. The term blood spavin is sometimes applied to the enlargement of the vein that passes across the hock from in front. This, however, is not an unsoundness.

107. Unsound in Wind. After giving all the parts careful inspection for soundness, the horse should be driven rapidly for a quarter of a mile so as to discover wind troubles. The horse should be stopped quickly and then by advancing closely to the neck the breathing may be noted whether free and easy or accompanied with a sound similar to whistling. If the breathing is characterized by a wheezing or whistling sound, then whistling, roaring or some other disorder of the air passages is present. If the origin of the sound is doubtful—it might

be possible to result from too tight a collar—have the horse taken out of the harness and ridden rapidly. When the breathing is not regular it is likely that the horse is troubled with the heaves. In the instance of horses so afflicted, the breathing is more or less spasmodic, the air from the lungs seeming to be half expelled when the respiration stops for a brief period and then the expulsion of the air is continued. In this way the depression of the flanks is not gradual and continuous as it is in the instance of the horse with sound lungs but it is stayed for a short period at a time when the breath is about half expelled from the lungs.

108. Detection of Stable Vices. Horses may have many stable vices that detract greatly from their utility, but these cannot be discovered as a rule in the show ring. To make a satisfactory examination of a horse, it is necessary to see it in the stable, then have it harnessed, hitched, driven and subjected to a critical examination, and after these things have been given careful consideration it will be only after continuous companionship on the road that a man may be said to truly know his horse.

VII. OFFICIAL STANDARDS FOR HORSES.

THE TROTTING STANDARD—ADOPTED BY THE AMERICAN
TROTTING REGISTER ASSOCIATION.

When an animal meets these requirements and is duly registered it shall be accepted as a standard bred trotter:

1. The progeny of a registered standard trotting horse and a registered standard trotting mare.

2. A stallion sired by a registered standard trotting horse provided his dam and grand dam were sired by registered standard trotting horses, and he himself has a trotting record of 2:30 and is the sire of three trotters with records of 2:30 from different mares.

3. A mare whose sire is a registered standard trotting horse, and whose dam and grand dam were sired by registered standard trotting horses, provided she herself has a trotting record of 2:30 or is the dam of one trotter with a record of 2:30.

4. A mare sired by a registered standard trotting horse, provided she is the dam of two trotters with records of 2:30.

5. A mare sired by a registered standard trotting horse, provided her first, second and third dams are each sired by a registered standard trotting horse.

THE PACING STANDARD.

When an animal meets these requirements and is duly registered, it shall be accepted as a standard bred pacer:

1. The progeny of a registered standard pacing horse and a registered standard pacing mare.

2. A stallion sired by a registered standard pacing horse, provided his dam and grand dam were sired by registered standard pacing horses, and he himself has a pacing record of 2:25, and is the sire of three pacers with records of 2:25, from different mares.

3. A mare whose sire is a registered standard pacing horse and whose dam and grand dam were sired by registered standard pacing horses, provided she herself has a pacing record of 2:25, or is the dam of one pacer with a record of 2:25.

4. A mare sired by a registered standard pacing horse, provided she is the dam of two pacers with records of 2:25.

5. A mare sired by a registered standard pacing horse, provided her first, second and third dams are each sired by a registered standard pacing horse.

6. The progeny of a registered standard trotting horse out of a registered standard pacing mare, or a registered standard pacing horse out of a registered standard trotting mare.

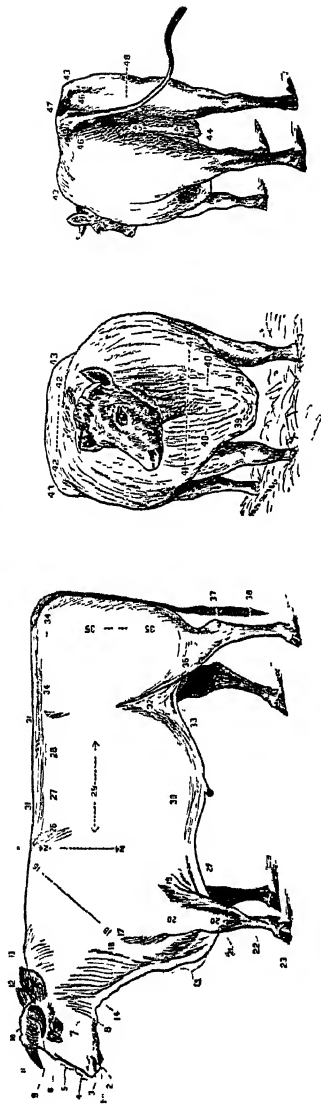
SCALE OF POINTS FOR SHETLAND PONY—ADOPTED BY
AMERICAN SHETLAND PONY CLUB.

Constitution —Constitution indicated by general healthy appearance, perfect respiration, brightness of eyes...	10
Size —Ponies over four years old, 42 inches and under in height, two points to be deducted for every inch over 42 up to 46 inches, fractional portions to count as full inches	25
Head —Head symmetrical, rather small and fine, wide between eyes, ears short and erect.....	10
Body —Barrel well rounded, back short and level, deep chested, good breast, compact, "pony build".....	10
Legs —Legs muscular, flat boned, hind legs not cow-hocked or too crooked.....	25
Mane and Tail —Foretop, mane and tail heavy.....	10
Feet —Good	10
	<hr/> 100

Note. In judging horses the height is sometimes a subject of discussion so that the manner of determining this should be well understood. It is generally conceded that the horse should stand on a perfectly level floor and the measurement made to the highest point of the withers. The position of the horse should be such that the head at the poll should be in line with the withers and this parallel to the floor. The fore legs and hind legs should be as perpendicular to the floor and as parallel to each other as the conformation of the horse permits. It should be noted that the spirit level in the cross bar of the standard should indicate that it is being held properly. The horse should be measured in shoes of the same thickness as he wears when in competition in the show ring.

JUDGING CATTLE.

MODEL STEER, WITH PARTS NAMED (as taught at the Ontario Experimental Farm).



- | | | | |
|------------|-------------------|--------------|---------------|
| 1 Mouth | 11 Horns | 31 Knees | 41 Chest |
| 2 Nostrils | 12 Ears | 32 Shoulders | 42 Loin |
| 3 Ears | 13 Neck | 33 Hoofs | 43 Ribs |
| 4 Eyes | 14 Throat | 34 Oars | 44 Pelvis |
| 5 Ears | 15 Throat | 35 Hips | 45 Testes |
| 6 Ears | 16 Throat | 36 Thighs | 46 Fore Hoofs |
| 7 Ears | 17 Shoulder Point | 37 Hoofs | 47 Tail Head |
| 8 Ears | 18 Shoulder Vein | 38 Hind Leg | 48 Tail |
| 9 Forehead | 19 Elbow | 39 Basket | |
| 10 Tail | 20 Arm | 40 Breast | |

In the above excellent presentation of points, prepared under the direction of Prof. Wm. Brown, point No. 31 is referred to as the spine. This is now usually referred to as the back.

CHAPTER II.

JUDGING CATTLE.

109. Method of Examination. In judging cattle in the show ring the most satisfactory plan is to make a very careful scrutiny of the animal as it stands before you; then approaching it from the front, notice the head and neck before placing the hands upon the shoulder to review the various parts of the body.

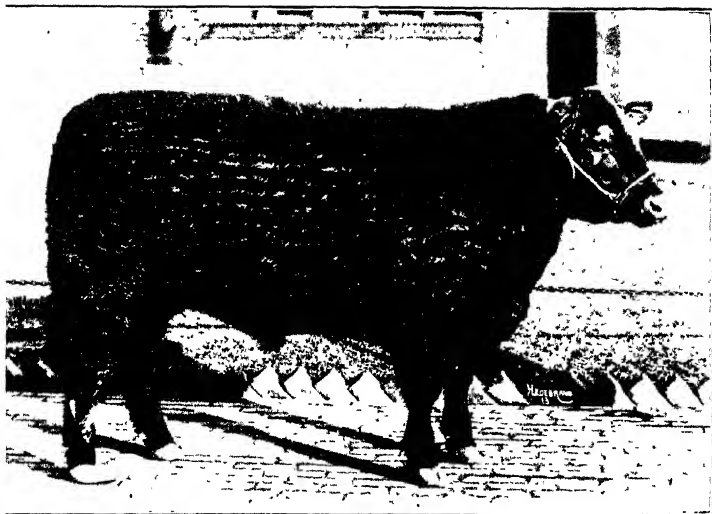
I. JUDGING BEEF CATTLE.

110. Method of Handling. In judging beef cattle it is of much importance to see that they stand properly and are not held so as to hide any natural defects which otherwise would be easily seen. They should stand on a surface as level as possible with the legs naturally placed under them, with the head held straight forward. By variations from this it is quite possible to hide from the examiner as he makes his first inspection many of the natural defects. It becomes very easy to vastly improve the handling qualities of an animal by turning the head towards the judge or to make the top or lower lines more level by choosing an advantageous position. In moving towards the animal from in front, note the characteristics of the head and neck quickly and then placing the hand upon the shoulder and using the tips of the fingers feel the compactness of the shoulder, its covering and the smoothness with which it fits to the body. From this point it is usual to pass to the back, handling this region very carefully as the back rib

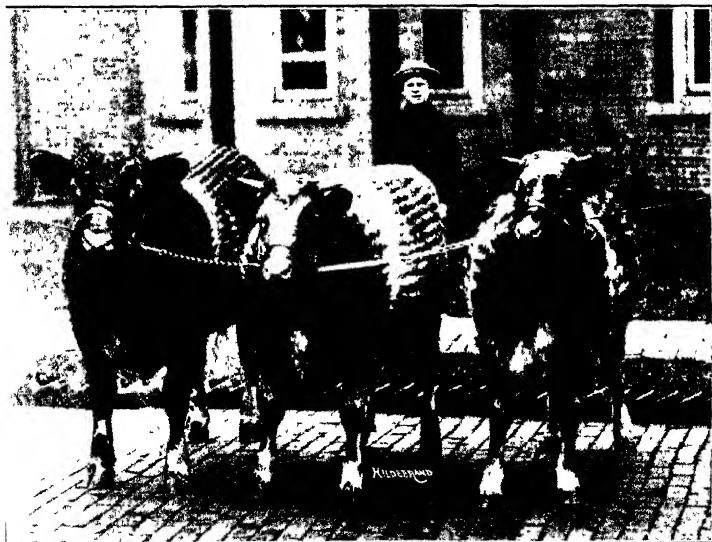
and loin is the most valuable part in the butcher's point of view. After handling the back carefully, the covering of the ribs should also be observed very closely. It is considered a good method for determining the quality of the flesh to gently push the ends of the fingers between the ribs. If there is no natural flesh or muscle there, the ends of the fingers are easily inserted in this region but if the covering is of the best quality and it is mostly muscle the ends of the fingers cannot be inserted very far between the ribs. To estimate the character of the skin and the mellowness of the flesh, the skin is generally lifted between the first finger and the thumb and its quality carefully noted. Then with the fingers flat gentle pressure against the rib reveals the mellowness or firmness of the flesh. The thickness of the loin is an exceedingly important point and one of the ways of determining this is to push the back of the hand in at the lower level of the loin and then note the distance from the top of the loin to the back of the hand. Leaving this point the fullness and characteristics of the hind quarter are observed, then the fullness of the flank and the cod, which make the criticism of the one side of the animal complete. Standing squarely behind it, the development of the hind quarter is noted after which it is only necessary to pass down the other side very similar to that which has been followed on the right side.

The steer may be considered from two points of view. The first has to do with the qualities of the store steer or feeder to be fattened, while the other refers to the merits of the prime steer that is ready for the butcher.

111. Store Steers. It is a common practice in some communities for the stockmen to buy young steers with the object of feeding them for market. The steers are generally procured in the early fall, fed through most of the winter months and put on the market in the spring or early summer. The most forcible factors in determining the profits from this work is the skill of the purchaser in selecting animals that will make good feeders and



Pure bred Angus Steer, GLENCARNOCK VICTOR 2nd. Grand champion at International Live Stock Exposition, Chicago, 1913.

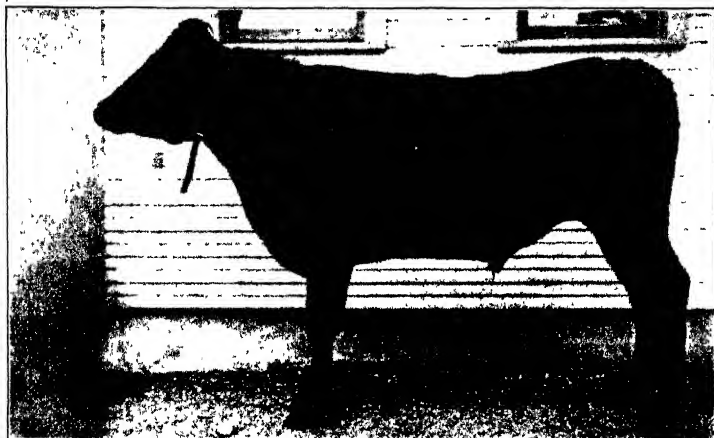


Shorthorn Calf Herd. Undeclared in the 1913 shows. Owned by Lespedezae Farm, Hickory Valley, Tenn.



Photo by Hills.

Shorthorn steer BRITISHER, illustrating desirable type for a feeding steer as shown in a short face, large muzzle, wide forehead, short neck, deep chest, straight, wide back, deep ribs and smooth, long hind quarters.



The type and other qualities usually indicative of an undesirable feeding steer showing thin, long neck, sharp withers, shallow chest, narrow back, thin loin, light quarters, long legs and the characteristic expression of the steer that eats most and makes least progress in the feed lot.

then buying them at a proper price. The skill lies generally in being able to estimate the possibilities of improvement in the animals selected; and to do this with any degree of certainty, calls for a practical knowledge of the conduct of animals in the feed lot where the reasons for the points are unfolded and tested.

112. Form of the Feeder. The best feeding steers are comparatively wide, round and deep ribbed. The steer that stands high from the ground, light in the flanks and shallow in the heart girth rarely makes a good feeder. In type the form of the store steer should fill out a parallelogram, the lines being true in every direction.

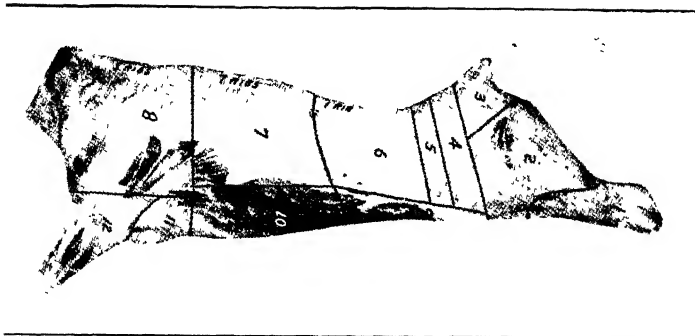
It should be broad and deep in front and this should be characteristic of the hindmost parts as well. As much width as possible is desirable if it is not accompanied with roughness over the shoulder or the hips or hooks. It is not expected, however, that a store steer should be as level and smooth in form as the finished animal ready for the block. Stoutness of form with depth of body are usually the characteristics of vigorous feeders, which may be accounted for by the supposition that in the stout individual the blood currents have less distance to travel and consequently the circulation is more active.

113. Quality. The possession of quality does not seem to have much influence on the feeding ability of the steer though it has a marked effect on the value of the steer after being fattened. Animals of quality usually fatten more quickly than those that are rough and coarse, though if the latter are exceptionally vigorous, which is generally the case, they will sometimes make greater gains than those having quality because of delicacy. Quality in the steer means fine bone, soft, mellow hide and silky hair; while such attributes as a very rough, heavy frame, coarse joints, prominent, ragged hips and rough, open shoulders

are the most pronounced evidences of deficiency in this feature.

114. Inferences from Good Handling. The handling of a feeder or the condition of the hide is one of the most valuable indications that may be observed. If the skin is mellow and elastic, it possesses what is called good handling. Such a skin is invariably associated with rapid fattening qualities, while a heavy, stiff hide is considered to indicate slower fattening. The previous management which the steers have had has a marked influence on the handling. When liberally fed and they are thrifty, the skin has the softness and elasticity that usually accompanies a condition which has had been termed by stockmen as "sappy." On the other hand if scrimped in their feed or if it has been dry without anything of a succulent nature as a part of the ration, the skin becomes tightly attached to the frame and it feels dry and paper like. In animals that possess good handling, when the hand is placed on the body just back of the shoulder and pressed against it, there is a soft elastic feel to the touch which is only found in animals having a thick coat of hair of fine quality, mellow skin and firm flesh. This feature of good handling cannot be magnified too much in judging all classes of beef stock, for it not only reflects the thriftiness of the animal at the time but also foretells its future progress.

115. Features of the Head. The features and proportions of the head are usually a condensed reflection of the rest of the form. A broad, short head is invariably accompanied with a thick, wide, low set body and the long, slim face is generally associated with the greater length of body and more narrowness. There is a co-relation of parts here as elsewhere that is seldom at fault and no other part offers such a field of study in this regard as that of the head. The mouth and the lips should be large, making the juncture of the muzzle and the face appear to be somewhat concave. From the muzzle to the eyes the

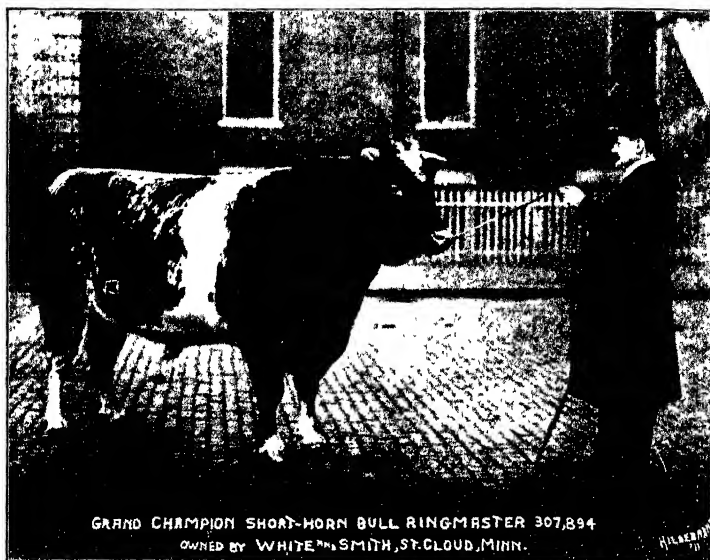


Reprinted from Illinois Bulletin 147

CHICAGO WHOLESALE DEALER'S METHOD OF CUTTING BEEF.

- 1 and 12 Shanks Weight is 8 per cent of carcass. Wholesale value per pound, $7\frac{1}{2}$ cents
- 2 Round Weight is 11 per cent of carcass. Wholesale value per pound, $14\frac{1}{2}$ cents.
- 3 Rump Weight is 6 per cent of carcass. Wholesale value per pound, $14\frac{1}{2}$ cents.
- 4 and 5 Loin end } Weight is 17 per cent of carcass. Wholesale
- 6 Pinbone Loin. } value per pound, 20 cents.
7. Ribs. Weight is 9 per cent of carcass. Wholesale value per pound, $16\frac{1}{2}$ cents
- 8 Chuck. Weight is 22 per cent of carcass. Wholesale value per pound, 12 cents.
9. Flank. Weight is 4 per cent of carcass. Wholesale value per pound, 7 cents.
- 10-11 Plates Weight is 16 per cent of carcass. Wholesale value per pound, $8\frac{3}{4}$ cents.
- Suet. Weight is 4 per cent of carcass.

A good 1,200-lb. steer dresses about 800 pounds and of this 708 pounds is marketable meat. The high priced cuts are taken from the ribs, loins and hind-quarters, and the best cuts come principally from the ribs and loins. A calculation from the figures given above shows that while the ribs and loins make up only 26 per cent of the weight of the carcass, they yield 40 per cent of the value.



Shorthorn bull, RINGMASTER. Champion of the breed at leading shows in 1911. Shown by White and Smith, St. Cloud, Minn. Photo taken at three years of age.

DESCRIPTION OF SHORTHORN CATTLE.

THE SHORTHORN in the course of its development has been mainly represented by three family types—the Bates, noted for style, fine heads, clean necks, straight, level backs, refined bone, with a combination of milking and beefing qualities; the Booths, famous for excellence in girth, wide backs, lengthy quarters, deep flesh and beefing attributes; the Cruickshanks, or Scotch cattle, possessed of scale, with low, broad, deep forms, heavy flesh, mossy coats and early maturity. With this as the source of their evolution, the modern shorthorn should reflect in the show ring a blending of the foregoing family types in possessing beef form, early maturity and all the general evidences of thrift and vigor. In the show ring the type that is recognized is that of a beef animal combining the butcher's ideas, the feeder's requirements and the breeder's demands. This means a representative that possesses a high percentage of valuable meat of the quality that is desired for the block. With this there should be the general evidences of productive capacity in the making of beef, which means a full development of the vital organs and the other regions which have to do with the powers of production. In unison with the breeding, and held in equal estimation, there should be the finish, style and other characteristics which the breeder seeks in the breeding herd required chiefly for the production of beef. The common colors are red, white and roan, and these as well as all families should not be subject to the personal preferences of the judge or to present popularity.

aspect of the face should appear triangular with the base at the muzzle and the top at the line running between the eyes. The openings of the nostrils should be very prominent indicating that there is an abundance of lung capacity. The lower jaw should appear strong and well clothed with muscle. The eyes should be large, somewhat prominent yet placid, indicating a quiet, generous temperament. Quietness and laziness are attributes of the temperament favorable to the process of fattening and we know that animals of lymphatic temperament have both these characteristics. The head should not be long between the eye and the horn and the poll should be somewhat prominent and topped with a mass of wavy hair. A fine texture is desired in the horn and it should be somewhat flat in shape and in no sense coarse. The ear should be neatly attached to the head, pointed and covered inside and on the edge with a profuse growth of fine, silky hair.

116. Neck—Short, Full. The neck should be short, in fact many well bred steers appear as if they had none. The top line from the base of the poll should run back straight and almost level with the top of the shoulder. The blade of the latter should fit closely to the body with a nice slope so that the animal may have a gay carriage. In steers that are very coarse in the shoulder with the blade standing out from the body, this part is apt to show bare of flesh giving also a marked appearance of shrinkage in the girth just behind the blade.

117. Chest—Wide, Deep, Full. In this region the steer should appear fully developed with the brisket light but yet far enough advanced to fill out the squareness of the frame to the proper degree. It will be found frequently that the narrow chested animal is a poor feeder, which makes but little progress in proportion to the feed that it eats. In addition to the chest being wide it should also be deep. The bottom of it should come down well between the fore legs with no shrinkage behind these as may be noticed frequently in animals that are deficient in con-

stitution. Such animals do not have the capacity to make feed into flesh and fat economically as they are deficient in vital force or constitution.

118. Ribs—Long, Hooped. These should be long and hooped so as to give an abundance of room to the vital organs, the lungs and the heart, and also provide a place for the storage of food in large quantities. A large, deep chest and a capacious stomach are good indications that an animal has the capacity to utilize large quantities of food and make rapid progress in fattening. The hind ribs should be comparatively long bringing the plates and the flanks on almost a level with the bottom of the fore part of the body. The loin should be wide leaving the ribs on a level and joining the hind quarters with little departure from a straight line.

119. Hips—Smooth; Long Hind Quarters. While width is desirable at the hips yet smoothness should not be sacrificed to secure this. When the hips are too wide apart they are likely to be prominent and appear coarse. It would be impossible to finish such an animal without the hind quarters appearing rough and very deficient in covering. The hind quarters should be long and carry out the squareness of form which should be characteristic of the fore quarters of the ideal feeding steer.

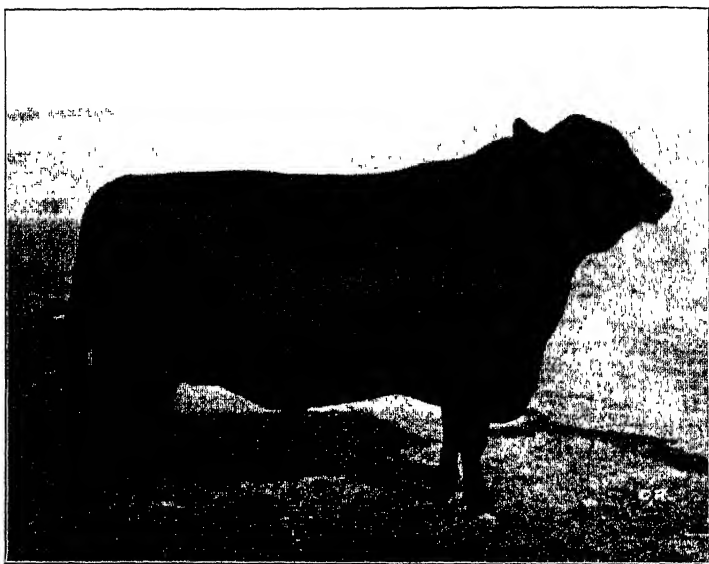
120. Judging Fat Steers. In judging the finished or fattened steer, the view must be largely that of the butcher. The butcher invariably prefers animals that are small in frame; the low set, thick sort that yield heavily in the most profitable parts. The finished steer should also be of fine quality so that the quantity of offal may be small, as this has much to do with the profitableness of the carcass from the standpoint of the butcher. In coarse steers fully one-half of their live weight is made up of what is largely waste to the butcher. If the bone is fine, the skin and hair of good quality, there is much less waste than if they were coarse.



Hereford Bull GAY LAD 6th Champion of the breed at the leading shows of 1911. Owned by O Harris & Sons, Harris, Mo Photo taken at two years of age.

DESCRIPTION OF HEREFORD CATTLE.

THIS BREED, which derives its name from its native district in England, is most popular in color and markings when showing a dark claret or cherry with white face, throat, chest, legs, belly, twist, and small stripe of white on neck and before shoulder. The type represented by this breed is that suitable for the largest production of beef, as it is low set and broad, heavy in fore quarters, full deep chest, level, wide back; wide, thick loin and full quarters. In those representing the best of the breed the covering of flesh is usually thick while the coat possesses a thickness and mossiness which is very conducive to the general thrift. The form represents that which is invariably associated with a strong constitution, vigor and prepotency, and these qualities are sometimes so strongly in evidence as to give rise to undue coarseness and roughness which should necessarily be discouraged in the show ring. Two of the cardinal qualities of the breed are early maturity and grazing attributes, and as these have their origin in natural vigor and activity those qualities of form and general appearance which contribute to these should have prominence in rendering decisions. See official scale of points on page 33.



Aberdeen Angus bull, PRINCE IRO, the property of Stanley R. Pierce, Creston, Illinois. Champion of the breed, Royal Agricultural Society Show.

DESCRIPTION OF ABERDEEN ANGUS CATTLE.

THE characteristic color of this breed of Scotch cattle is black without any white beyond the udder or above the under line. The type of the breed is favorable to the production of the highest quality of meat in the greatest quantity. Smoothness is a leading feature, this being encouraged by the type which is noted for the rotundity of form with symmetry and quality, and it should be noticeable in the show animal by the evenness with which the flesh covers the carcass over all regions. The head is hornless without any appearance of scurs, and it should be surmounted by a sharp poll; neck free from loose skin with a strong shoulder vein; shoulder oblique, fitting close to the body and not rough at the top; ribs deep, circular; hips moderately far apart, smoothly covered; rump, long, level, smooth; thighs muscular, twist low and full; quarters low, full and rounded. The general form is cylindrical, covered with even depth of mellow flesh and hide that is pliable yet not thin, and coated with fine, black hair. See official scale of points, page 91.



Galloway heifer, LUTIE LAKE 2nd, 22759; Junior champion female of her breed at the International Live Stock Exposition in 1904. Bred and shown by O. H. Swigart, Champaign, Ill.

DESCRIPTION OF GALLOWAY CATTLE.

THIS BREED, deriving its name from its native district in Scotland, is black in color, with no white admissible except on the udder or below the under line. The type represents a form that is thick, close to the ground and symmetrical, with long, wavy and thick coat of hair. As hardiness and strength of constitution are leading features, there should be every indication of general thrift and ruggedness in a representative of the breed.

The scale of points adopted by the Council of the Galloway Cattle Breeders Association of Great Britain in 1883 gives the features of the breed in detail as follows:

COLOR—Black, with a brownish tinge.

HEAD—Short and wide, with broad forehead and wide nostrils; without the slightest symptoms of horns or scurs.

EYES—Large and prominent.

EARS—Moderate in length and broad, pointing forward and upward; fringe of long hairs.

NECK—Moderate in length, clean and filling well into the shoulders, the top in a line with the back in a female, and in a male naturally rising with age.

BODY—Deep, rounded and symmetrical.

SHOULDERS—Fine and straight, moderately wide above; coarse shoulder points and sharp or high shoulders are objectionable.

BREAST—Full and deep.

BACK AND RUMP—Straight.

RIBS—Deep and well sprung.

LOIN AND SIRLOIN—Well filled.

HOOK BONES—Not prominent.

HIND QUARTERS—Long, moderately wide and well filled.

FLANK—Deep and full.

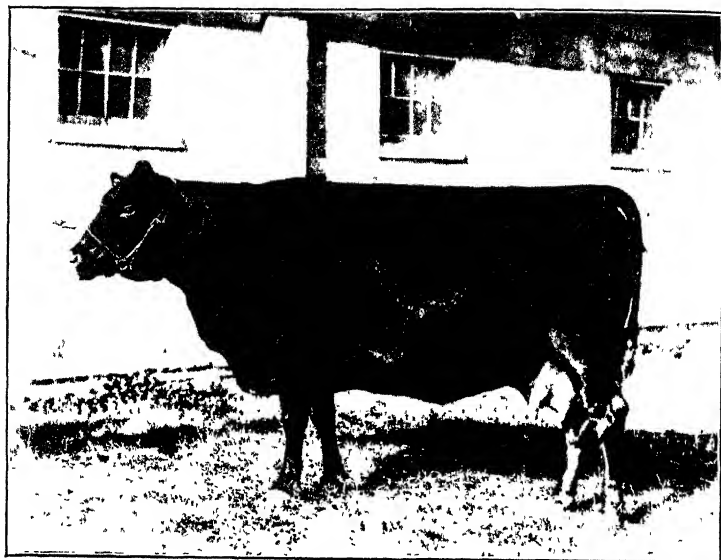
THIGHS—Broad, straight and well let down to hock; rounded buttocks are very objectionable.

LEGS—Short and clean, with fine bone.

TAIL—Well set on and moderately thick.

SKIN—Mellow and moderately thick.

HAIR—Soft and wavy, with a mossy undercoat; wiry and curly hair is very objectionable.



Red Polled Cow, Casy 2nd Champion cow of the breed at the International Live Stock Exposition, Chicago, 1913.

DESCRIPTION OF RED POLLED CATTLE.

THIS BREED which originated in Norfolk and Suffolk, England, have been polled and red in color and otherwise possessed the type characteristics which now identify them for a century past. The type of the breed should represent a high combination of beefing qualities with utility for dairy purposes. This means a form that carries a covering of flesh and is especially developed in those parts which produce the best quality of meat. The head should be clearly defined in its features, the face being clean cut, the eye full and large, the ear medium size and the poll sharp without any fullness at the sides where the horns are usually located. The throat should be free from looseness and while fine should run easily into a somewhat thick neck which swells smoothly over the shoulder. The chest should be both broad and deep and the body should consist of a back moderately broad and well covered and a rib that is deep and somewhat round; the loin should have width with smoothness due to flesh and the same should be characteristic of the hind quarter. Moderate meatiness is allowable in this region and in the cow the udder should be specially well developed, large and circular and the teats of good size and well placed. The udder should be the sponsor for the dairy qualities while the general form and the condition should be indicative of the beefing propensities. In the show ring the tendencies towards beef production find more favor than those considered conducive to dairy qualities. See official scale of points, page 102

121. Handling—Indicates Condition and Quality of Meat. The handling quality of the prime steer has considerable value in the butcher's view. On this he relies for indications of the steer's condition, and also the quality of the meat. If the covering of flesh is evenly distributed over the steer and it is springy and mellow to the touch, it is considered ready for the block. If in denting the side with the finger the dent lingers some time the condition is due to soft, flabby fat that brings but a small price at the butcher's stalls. This is quite common in finishing steers to find them flabby in places, most commonly over the loin and about the root of the tail. This patchiness is due to the unevenness of the fat distribution and it is a very undesirable feature.

122. Condition. A sure sign of the condition of a steer and its fitness for the block is fullness of the scrotum or cod. When a steer is ready for the butcher the scrotum will be soft and large. The condition of the flank is another sign of ripeness. This should be thick, full and pendant, and the lower lines of it should be nearly even with the bottom lines of the body. Another indication considered very reliable is the development of tongue fat or the fullness which appears at the root of the tongue.

123. Relation of Parts. In the finished steer from the butcher's standpoint the head is of little value, it should be in harmony with the rest of the body and not too large, as that means waste. The neck should be short and thick. The shoulder vein or the junctiure of the neck and the shoulder should be full, giving both these parts a characteristic smoothness due to the base of the neck swelling nicely over the shoulder blade. The latter should be well covered and evenly packed on top. The brisket should not be too heavy, as this is very cheap meat, but only advanced enough to contribute to the desired squareness of

form. Just back of the shoulder there should be no slackness in the girth. The ribs should be well covered with springy, mellow, yet firm flesh. The loins should be broad and thick; the reason for this is that there are more valuable cuts in the broad, thick loin than in the thin, narrow one, and this region in addition has a high value in the view of the butcher. The hips should be smoothly covered and their breadth should be carried back uniformly. The hind quarters should be long, as this adds greatly to the value of the carcass. The flesh should extend far down the legs with the twist deep and plump. Viewed from the side the top line of the animal and the under line should be parallel or nearly so.

124. Value of Cuts. The value of the different parts may be said to be a point of first consideration with the butcher. Dividing the steer into parts according to the way the butcher cuts them, we find that the head is only worth about ten or fifteen cents altogether, while the neck only has a value of from three to seven cents per pound. Then the cut called the chuck, which runs from the top of the shoulder to the beginning of the forearm and above the brisket, is worth from five to ten cents per pound. The brisket as a whole only has a value of from four to eight cents while the fore leg from the point where it joins the body to the chuck, known as the clod, is worth about six cents. The crops, or as the butcher terms it, the ribs, which consist of that part just back of the shoulder, is worth seven cents in the poor steer against sixteen cents per pound in the best. The region just below the crops known as the fore flank or plates, has a value usually from four to eight cents per pound. Following this comes the loin and this varies from ten to twenty cents. The upper part of the hind quarter has a value of about ten cents per pound, while the lower part, ranges from ten to twelve cents per pound in the best steers. The neck, brisket and plates are the cheapest portions. In regard to ribs, the two end ribs go with the hind quarters,

while the two second ribs in the fore quarters sell from ten cents upwards, as they are the best cuts in that part. The first two ribs in the front quarter have a value of ten to twelve cents per pound. The wing cut of the sirloin grows narrower as it runs down but it still affords a large and valuable cut in finished steers. Porterhouse steak and sirloin taken from the parts which run from the front of the hooks to the end of the wing cut (that is where the fore quarter is separated from the hind quarter) is worth from ten to twenty cents per pound, making this region the most valuable of the steer. The rump steak which comes from the lower part of the hind quarter including the thigh and twist, has only a value of ten to twelve cents per pound. When it is understood that the average percentage of pounds that a steer possesses is usually sixty, it is easy to see that the butcher must pay close attention to the form which yields the smallest percentage of offal and returns the most valuable cuts. From the foregoing we see that the animal from the butcher's point of view depends mostly on its quality and then on its form, and in regard to the latter we find that the value of the animal grows greater as we pass from the fore quarters towards the hinder parts. It is important to know that the feeder's ideal does not differ markedly from the best for the butcher, except that the latter has been matured and fattened.

SCALE OF POINTS FOR BEEF CATTLE—STEERS.

GENERAL APPEARANCE:

	Perfect Score
Weight, score according to age	10
Form, straight topline and underline; deep broad, low set, stylish	10
Quality, firm handling, hair fine; pliable skin; dense bone; evenly fleshed	10
Condition, deep, even covering of firm flesh, especially in regions of valuable cuts	10

HEAD AND NECK:

Muzzle, broad; mouth large; jaw wide; nostrils large.	1
Eyes, large, clear, placid	1
Face, short, quiet expression	1
Forehead, broad, full	1
Ears, medium size, fine texture	1
Horns, fine texture; oval, medium size	1
Neck, thick, short; throat clean	1

FORE QUARTERS:

Shoulder Vein, full	2
Shoulder, covered with flesh, compact on top, smooth.	2
Brisket, advanced, breast wide	1
Dewlap, skin not too loose and drooping	1
Legs, straight, short; arm full; shank fine, smooth...	2

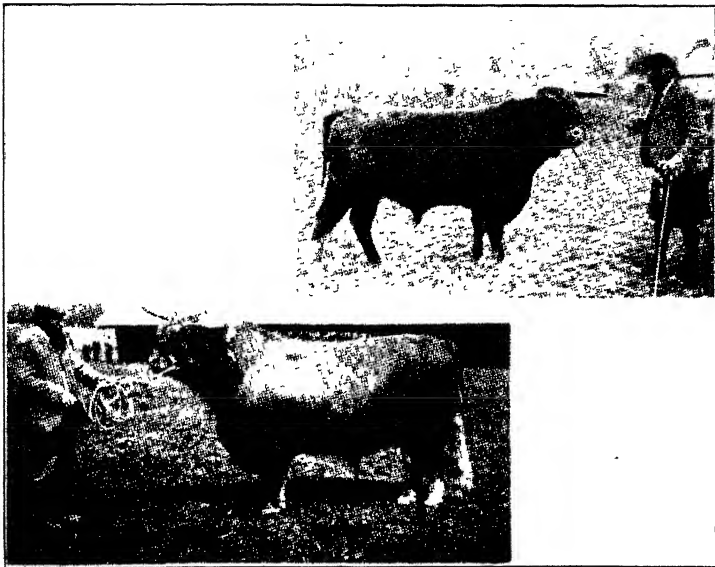
BODY:

Chest, full, deep, wide; girth large; crops full.....	4
Ribs, long, arched, thickly fleshed	8
Back, broad, straight, smooth, even	10
Loin, thick, broad	8
Flank, full, even, with underline	2

HIND QUARTERS:

Hips, smoothly covered; distance apart in proportion with other parts	2
Rump, long, wide, even, tail head smooth, not patchy.	2
Pin Bones, not prominent, far apart.....	1
Thighs, full, deep, wide	2
Twist, deep, plump	2
Purse, full, indicating fleshiness	2
Legs, straight, short, shank fine, smooth	2

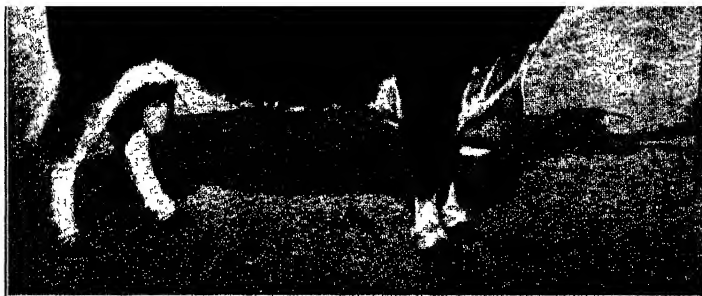
Total.....100



Highland bull, LAOICH 1260. The property of J. R. Campbell, Shinness, Scotland. A winner of numerous first and champion prizes at the Royal Agricultural Society Show of England and the Highland Agricultural Society Show of Scotland. The upper illustration shows this bull when champion of the breed at two years of age, while the lower one shows him again when in the same honored position at six years of age. A comparison of these photographs, both taken by Reid, is very instructive as they clearly indicate the development which takes place as a bull approaches maturity.

DESCRIPTION OF HIGHLAND CATTLE

THIS BREED which comes from the highlands of Scotland is noted especially for their robustness and the high quality of the meat which they produce. In type they exemplify the characteristics which we associate with constitution, being very deep and full chested, strong and rugged framed with a dense and long coat which protects them from the exposure to mountain conditions. The head is somewhat shaggy with bright, piercing eye and the horns strong and long. The neck is short the chest deep and full and the fore quarter shows unusual development especially in the region of the vital organs. The back is long and level and the quarter well covered and lengthy. The general form is massive and the general appearance of ruggedness is added to by a thick shaggy coat of various shades of dun, black and sometimes brindle in color.



Hereford bull, SIR BREDWELL 63685, by Corrector, Champion at the Trans-Mississippi Exposition, 1898. Bred by T. F. B. Sotham of Chillicothe, Mo. Purchased by Col. C. Slaughter, of Texas, for \$5,000.



Rear view of SIR BREDWELL 63685, showing the extent to which it is possible for a bull to be developed in the most valuable parts for meat production. Note the covering of the back, loin, fullness and depth of the hind quarters.

II. JUDGING BEEF STOCK FOR BREEDING PURPOSES.

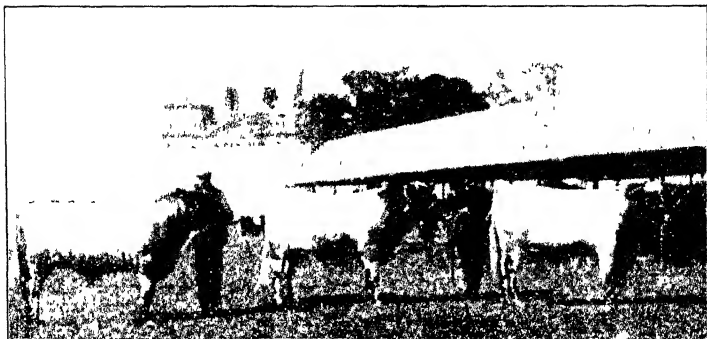
In judging beef stock for breeding purposes, the breeder must have in view the demands of his own interests, and yet those of the feeder and butcher must also receive due consideration. For this reason the desirable qualities that are sought for in feeding stock, the features that make the animal valuable to the butcher and the attributes that the breeder knows to be of value, must all have proportionate consideration. Those of the feeder's and the butcher's type have been discussed, so that it is required to comment only on the peculiar features that are especially valuable from the breeder's point of view. There are two features of this kind that because of their importance deserve special emphasis in the judging of breeding stock in the beef classes, and these are the possession of all the evidences of constitution in combination with deep natural flesh. The breeder to appreciate his work must rely greatly on the constitution of his animals, for it is this that guarantees thrift and vigorous reproduction.

The other feature of special importance in beef stock is that of natural flesh. Natural flesh means the possession of muscle or red meat with which an animal must be born to make a carcass for the butcher's block that is properly mixed in fat and lean.

There is no feature of more value in the breeding of beef stock than that of having natural flesh characteristic of all animals in the herd, and there is likely no other quality which is transmitted with more certainty than this.

125. Judging Beef Bulls. In form and condition those qualities which mark the feeder's and butcher's ideal should be strikingly shown in the beef sire. As already mentioned there are two features that require special emphasis, as they are especially valuable in the breeding herd of beef cattle and consequently should be possessed in a marked degree by the head of the herd. Reference is made to constitution and depth or wealth of natural

flesh. A careful study of the work of those breeders who have made a name in the breeding of beef cattle will bear out the assertion that every one of them appreciated these two qualities. To illustrate this point we may use the most marked example in recent years, by referring to the work of two of the most successful breeders of beef cattle, Amos and Anthony Cruickshank, of Sittyton, Scotland, as their work bears out the value of the two features that have been selected for more prominence than others. Two of the best sires that were used in their herd, Champion of England and Roan Gauntlet, have been described by a recent writer (Prof. T. F. Jamieson, in the London Live Stock Journal) as possessing this quality in an inordinate degree, though they had other features of minor importance which, however, would cause some judges to overlook such animals in a show ring. Referring to the Champion of England, this writer states that his produce were better than those of any other bull used at Sittyton, asserting that "they were large, growthy, healthy, thriving beasts, with straight backs, deep ribs and good hair; heavy carcasses on short legs; often not so stylish and neat in their hind quarters, for they lacked that finish in their frames that would have brought them to the top in the Royal or Highland society's shows. A marked feature was their early development. No other bull's calves came out so strong as young animals. Champion himself was in color a roan, of good size but not extra large, stood on short legs, had a deep-ribbed, heavy carcass, a strong back, which so far from shrinking at all at the loins or middle rather tended to arch up there. He had a slight drop from the hooks to the rump which detracted from his appearance, but had good hind quarters, was heavy and full in his thighs, unusually good in his fore ribs and had a fine elastic skin with good hair."



COUNCILLOR.

MILLIONAIRE.

INGRAM'S STYLE.

Yearling Shorthorn bulls, first, second and third at R A S. E. Show, Birmingham. INGRAM'S STYLE exhibited by Mr. John Handley (first prize), MILLIONAIRE, exhibited by Messrs. G. and H. Bickford (second prize), COUNCILLOR, exhibited by H M the Queen, (third prize)



Reproduced from Bibby's Quarterly.

Three Hereford prize winners at Birmingham (England) Fat Stock Show, first, second and third in the same class. The left hand animal, GARNISH, took first prize, the middle one, GRACE, third prize. The right hand animal took the second prize in the same class. First and third prize winners both the property of the Right Honorable the Earl of Coventry, president of the Royal Agricultural Society. The second prize winner is the property of G. H. Baker, Esq, The Hill, Bridgnorth.



Aberdeen Angus cow VIOLET 3rd OF CONGASH. A celebrated cow imported and shown by J. D. McGregor, Brandon, Manitoba, Canada



The Heiford heifer BANZA 316601, a prize winner in the two year old class in the shows of 1911. Shown by J. P. Cudahy. Kansas City, Mo.

Commenting on Roan Gauntlet, this writer says: "Roan Gauntlet was a lightish roan color, with a deep heavy carcass on shortish legs. For size, quality, hair and substance he was all right; he was well let down in his hind quarters and his ribs sprung out well from his back, but inclined to flatten lower down. He had a biggish head and his face was covered with very curly hair. The stock got by Roan Gauntlet were, like those of Champion of England, of good size and remarkable for their early development, natural depth of flesh and quality." These are the qualities that the breeder desires to have perpetuated in the produce of his herd, and they are also the qualities that the feeder desires and the butcher requires in the animals he buys. In addition to them the beef sire should have the features of masculinity that attach themselves to cattle very strikingly apparent. The face should be broad, the head burly, the horns strong but not coarse, and the crest full and prominent. There should be a marked appearance of massiveness presented in the front view and the hind quarters should not in any sense be feminine; that is, they should not have the shortness and width and roughness that are usually associated with those of the other sex.

126. Judging Beef Cows. In judging beef cows the preference should be given those that show constitution, wealth of natural flesh and feminine character. Constitution in the female is of as much importance as it is in the sire, and its value cannot be overestimated in the breeding herd. The question of condition or flesh in this class constantly challenges the judgment of the judge, as it is very frequent that a good cow of excellent type and style competes in the show ring with an indifferent animal in high flesh. While this is an occurrence where every instance will most likely call for a different judgment, yet it may be said that the preference should be

given to the good cow that is lacking in condition rather than the poorer individual that is highly pampered. In this connection it should be stated that cows are probably more apt to be rough and patchy, yet this is a feature that should always be condemned. Over the ribs there are apt to be creases, or around the tail the fat may be accumulated in bunches or the back may show patches, "ties" or unevenness of flesh. Though not often transmitted, yet this tendency to patchiness should be discountenanced, as it is an undesirable condition in all fat stock.

127. Judging Young Beef Stock. In judging young beef stock the peculiar feature to which much importance should be attached is that of early maturity. Early maturity is a profitable characteristic to encourage in beef animals and for that reason should be given all possible prominence in the show ring. The young animals that show an early tendency to put on an even and somewhat firm and deep covering of flesh and at the same time show size, constitution and quality are the ones that should have the preference of the judge.

III. JUDGING DAIRY CATTLE.

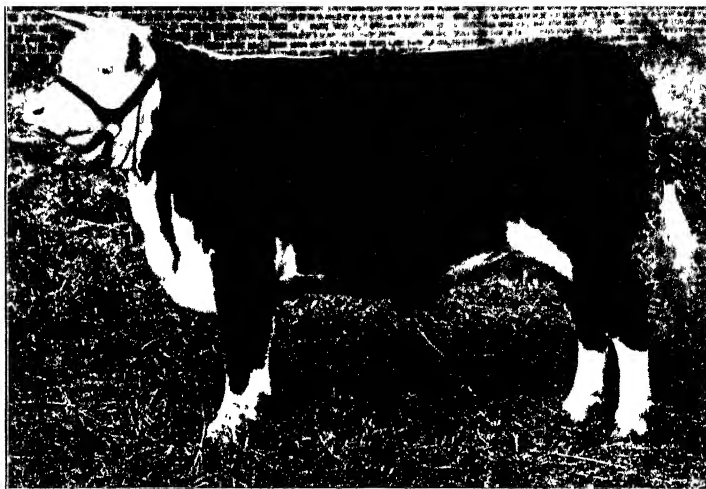
To estimate the merits of dairy cows when giving milk there is no method so satisfactory as the actual records made with the Babcock test and the scales. Having the weight of milk yielded, the percentage of fat in it, duration of the milking season and period of pregnancy together with the amount of feed consumed, the merit of a cow for dairy purposes may be rated accurately. But even all these details will not completely express the meritorious qualities that it is possible for a dairy cow to possess; for the breeder has in mind some other qualities that he desires, chief among which may be mentioned the ability of the cow to produce calves of the merit of herself and to continue doing this for a number of years. To attempt to encompass all the merits that any domesticated animal may possess and express this in a scale of



Polled Durham bull THE CONFESSOR. Champion at the International Live Stock Exposition in 1911. Owned by J. H. Miller and Sons, Peru, Ind. The term 'Double Standard' is applied to such Polled Durhams as are eligible for registration in the American Shorthorn Herd Book as well as in the Polled Durham Record.



Hereford Calves. Awarded grand champions for feeder cattle at the International Live Stock Exposition, Chicago, 1904.



Hereford cow PRINCESS 16th Champion at the Iowa State Fair in 1911. Shown by O Harris & Sons, Harris, Mo



Shorthorn bull calf, SCOTTISH CHAMPION, at 7 months. The highest priced calf of 1898. Bred by W. S. Marr, Uppermill, Scotland. Sold at auction for \$1,650.

points is at best but a stimulus to the study of them, and it is only with this in mind that the various scales of points are submitted here in this work. That which follows is used at the London and Canadian Dairy Show as a basis for making awards in two day tests: Twenty points for constitution and conformation, one point for each pound of milk, twenty points for each pound of fat, four points for each pound of solids not fat, one point for each ten days in milk after the first twenty days (limit 200 days); ten points is deducted from the total score for each per cent of fat below three per cent fat in the milk.

While the judging of dairy cattle by points may not be completely satisfactory, it is a quick method for use in the show ring and it assists in the study of the many traits that are common to dairy cattle. Its value does not lie in the degree to which it assists in distinguishing the good cows from the bad ones but chiefly for the insight which it gives into the nature and functions of the dairy animal, and it is the deeper knowledge of them that leads to better care, more intelligent feeding and more successful breeding, which all culminate in greater production.

128. Dairy Cow's Function. To be able to draw correct inferences from the points of the dairy cow, it is necessary to understand her function and how she performs it. The function of the dairy cow is to make milk, so that it is desirable to have a complete knowledge of how she does this and more especially the operation of the chief organs employed in the process. After studying this so as to see the work performed by each part, it is then realized that the type of the dairy cow is produced simply by the activity of these parts and it is in this way that it is possible to obtain a clear conception of the close relation of function or work, to type.

129. Making of Milk. To understand how milk is made let us follow the course of the food after entering the cow's mouth. From there it passes into the gullet

and then to the first stomach or paunch. After remaining there for a time, the most of it is returned to the mouth and remasticated; when this is accomplished the food passes through the two other stomachs and finally lodges in the fourth. After undergoing a mixing process by the action of the muscles of the stomach, the food passes into the small intestines. Up to this time the chief action of the various parts has been to break up the food, so that the fluids of the body may act upon it, and make the digestible and nutritive portion into a solution. In its passage thus far the food has been subjected to the action of the saliva of the mouth and the gastric juice of the stomach, together with the bile of the liver and pancreatic juice which attack it in the small intestine. The result of this action is that the soluble nitrogenous material, carbohydrates and salts are now in a condition to be received by the blood and carried to the parts of the body that make the most abundant use of it. We see from this that the stomach and its aids have an important part to play in preparing the food, so that it may supply the cow the material to carry on her specialty, which is the making of milk.

130. Function of the Blood. The food now being in a condition to be utilized by the animal economy, let us see how it passes into the blood and finally reaches that other great manufacturing center of the body of the dairy cow, the udder. It is the blood that is the medium for carrying the nutritive portions of the food to the organs needing them. The mucous membrane or inner lining of the small intestines is covered with a large number of small glands that have the appearance of the pile on velvet. These villi consist of cells and numerous small branches of veins called capillaries, and they also have what are known as lacteals. All the constituents, excepting the fat, pass through the wall of the small capillaries and these connect with the portal vein, which carries the blood to the liver and thence to the right side of the heart. The emulsified fat of the food reaches the

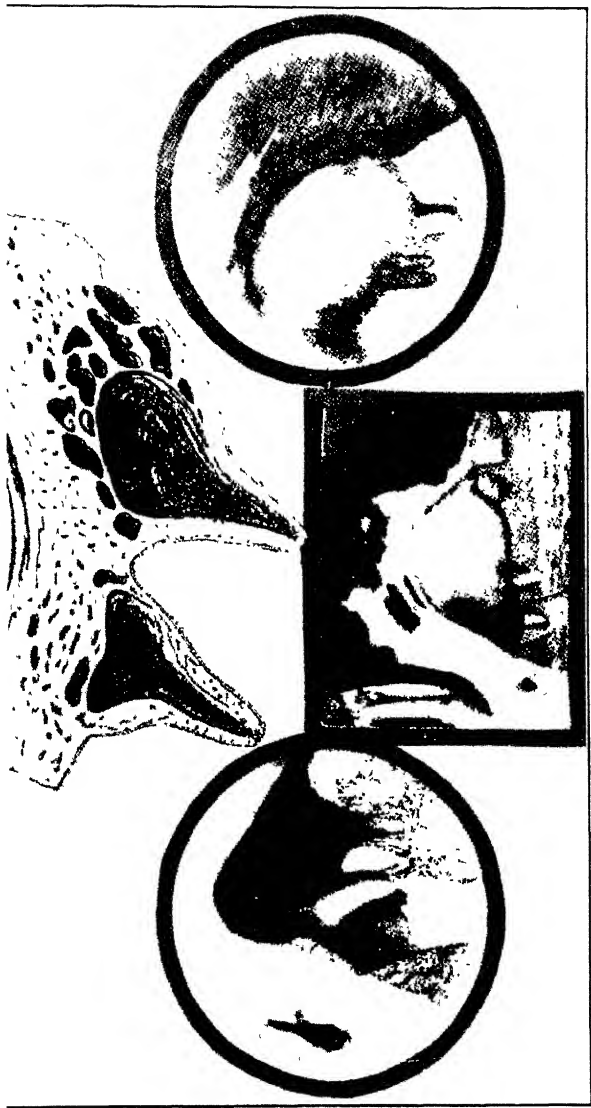
same destination by a slightly different course. It passes into the lacteals that are contained in the villi mentioned and these join a long tube that runs beneath the spine and finally reaches the thoracic duct, which also receives all the fluid coming from the other lymphatics in the cow. The thoracic duct empties its contents about the region of the first rib into a great vein (the anterior vena cava) which opens into the right side of the heart, so all the digestible constituents of the food are now in the blood and have reached the right side of the heart. From here the blood goes to the lungs to be purified by the air that is breathed in and then it again goes back to the left side of the heart to be pumped through the arteries to the various portions of the body. Several branches run to the various organs of the body but that which goes to the mammary gland is of chief interest in the function of making milk. The aorta runs along under the spinal column and finally reaches the femoral artery which is about parallel with the femur or thigh bone. This throws off a branch (prepubic) which again branches into another (the external pubic) and this again after it passes through the inguinal ring divides into two branches (the anterior or subcutaneous artery, and the posterior abdominal or mammary artery) and from these the mammary gland receives its supply, as they branch into all the regions of the udder.

Following the blood still further, it passes through the udder and appears outside of it in what are known as the milk veins. They run along the belly, pass into the body, and finally direct the blood to the heart again. In respect to the function and relations of the organs up to this point, we can understand that the stomach and its accessories perform the greatest amount of work in making food into blood, while the lungs purify it, and the heart propels it to those parts that are in most need of it.

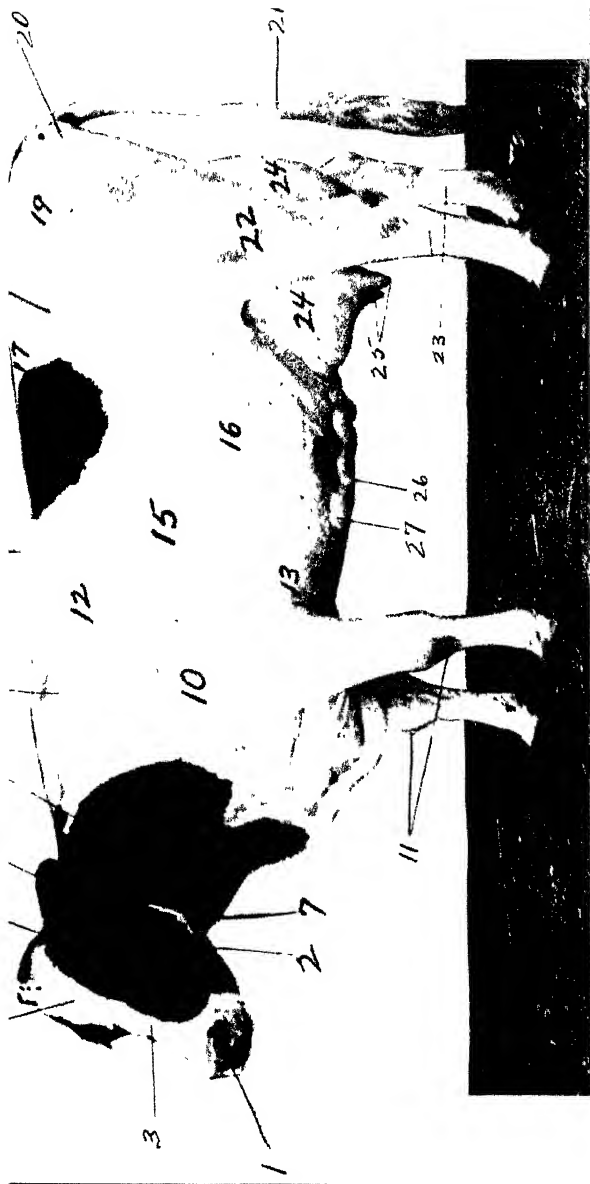
131. Function of the Udder. In the dairy cow the udder is an important organ, for it directly performs the work of making milk, which is the dairy cow's specialty.

With the exception of the water, the udder is generally considered to produce as the direct product of its own action all the constituents of the milk. The casein, the fat and the milk sugar are elaborated in the udder, the only constituent that is thought not to undergo any change is the water in the blood. However, it is from the blood that the milk is made, for the action of the udder is to so change all the constituents that the milk distinctly becomes the peculiar product of the udder.

To better understand the construction of the udder let us follow the course of the small opening which exists at the end of the teat. This opening at the upper part of the teat swells into a cistern or milk reservoir, where the milk accumulates to a degree between the time of milking. The milk is prevented from passing out of this cistern through the teat by a small muscle (sphincter) which holds the milk in the udder until relaxed by the stimulation of milking. From this cistern a canal extends further into the udder. This branches many times and at the end of each branch there is a cluster (a lobe) of tissue very similar to a bunch of grapes. What is known as the lobe is similar to the bunch, the lobule resembling one grape, and what is known as the alveoli the seeds of the grape. The alveoli are lined with small cells in which the milk is made. These cells produce within themselves the fat peculiar to milk and also secrete the water, salts, etc., that enter into the composition of milk. The milk being secreted in these millions of small cells, which compose the udder, passes into the branches that lead to them, and from these it passes into the main branch and finally reaches the milk cistern, where it accumulates until milking begins. The four quarters which make up the whole udder are each constructed in the way indicated and they act somewhat independently of each other.



The upper illustration shows a cross section of a cow's udder. The photo to right hand illustrates a frequent fault in lack of development of the front quarter of the udder, while the photo on the extreme left shows one equally undesirable, as the quarters are small and the teats bunched. The photo in the center below shows a fully developed udder of proper proportions.



LOCATION OF POINTS OF A DAIRY COW

1. Muzzle. 2. Jaw 3. Face 4. Forehead. 5. Eyes 6. Ears 7. Throat 8. Neck. 9. Withers 10. Shoulders
11. Fore Legs 12. Crops. 13. Chest 14. Back. 15. Ribs 16. Barrel 17. Lon 18. Hips 19. Rump 20. Pin bones
21. Tail. 22. Thighs. 23. Udder. 24. Teats 25. Milk vems 26. Milk wells. 27. Pin bones.

132. Nervous System. Besides the organs performing the work of digestion and secretion, there is another feature of the physiology of the dairy cow, which is of equal importance. Reference is made to the brain, the spinal cord, and the numberless nerves connected with the nervous system. These control the action of most of the organs of the body and have an effective influence over the amount of work that they may accomplish. The nervous system is represented by the brain and the spinal cord with its branches. The spinal cord runs through the vertebra from the head to the tail and sends out from each vertebra branches that connect with the various organs of the body. The feature connected with the nervous system that has special application to the dairy cow is that of temperament. More study has been given this in the instance of men, and those who have given most attention to it have divided their temperament into four classes—nervous, lymphatic, bilious and sanguinary. In cattle the two divisions, nervous and lymphatic are most in evidence, and they are very markedly characteristic of two classes of cattle, dairy stock and beef animals. In an animal of nervous temperament, the nervous organization is strong and well developed. Such an animal is able to stand labor beyond what would be expected of it from its physical appearance. The animal of lymphatic temperament is sluggish in disposition and inclined to fatten or become fleshy. It should be stated that the common conception of nervous temperament is not the same as that which is referred to here. Generally when reference is made to an animal's having a nervous temperament it is commonly supposed to mean that it is irritable and excitable which actually indicates the lack of nervous control. The term as properly used in reference to dairy cattle means an animal that is full of nerves, one that has strong nerves which gives tone to the various organs of the body. The

animal of nervous temperament is one that is sensitive and active, giving all regions the greatest vitality and all the organs the greatest productive powers.

To sum up, if we consider a cow simply as a machine for making milk, we find that the food is manufactured into blood by the stomach and its accessories and the blood in a general sense is made into milk by the udder so that the two main manufacturing centers of the dairy cow are the stomach and the udder, and it is around these that what is known as the dairy type has evolved its peculiarities. But as the dairy cow is more than a machine, as she has vitality and recuperative power, we find that the nervous system as expressed in the nervous temperament is what enables her to maintain her enormous productive powers in these centers.

133. The Dairy Form. It will be understood from the previous discussion of the function of the dairy cow that there are four main centers of activity when she is performing her function; the digestive system, the milk secreting system, the circulatory system and the nervous system. And it is because of extreme activity in these centers that the dairy cow inclines towards a given type. She tends to become wedge shaped and lean because of the unusual activity in the regions mentioned. Certain portions of her organization have an undue amount of work which tends to their development in an extreme degree, while the other portions because of their activity and lack of nourishment do not develop to the fullest degree; this results in the instance of unusual performers in a type that is inclined to be narrow in front and wide and deep behind. While it does not necessarily follow that a cow, to be a good dairy animal, must be of this type yet because of the work she does, most of them tend towards it. The relation of type to performance has been the subject of experiments by Professor Haecker, reported in Bulletin 67 of the Minnesota Experiment Station. When a cow is milking freely if she possesses good dairy qualities there is likely to be a lean appearance over every region of the



Jersey cow BOSNIAN'S ANNA Imp. Champion of the breed at the National Dairy Show in 1910. Shown by C. I. Hudson, East Norwich, N. Y.

DESCRIPTION OF JERSEY CATTLE.

IN THE establishment of this breed on the island, from which it takes its name, the work was conducted very systematically to produce uniformity of type and bovine beauty. In establishing the ideal, two representative animals were chosen for excellence and the scale of points adopted was made a combination of these. The early breeders adhered very closely to color, markings and type but the modern breeder has lessened the attention towards these by breeding more strictly for utility as a butter producer. The foundation stock for the Jersey represented chiefly by those on the island at the present time are noted especially for the deerlike appearance of their heads, fine, slim necks, light shoulders, deep though narrow forequarters, large bodies with abundant capacity, lean hind quarters and more particularly for the beautiful appearance of the udder in the fullness and placing of the teats. Since the introduction of a system of testing, the indications which give power of production have overbalanced to some degree the fine discriminations which existed as to the general color and markings, of nose, tongue and switch. The modern type may be of broken color, or lack in the fancy points referred to but it has the ability for larger butter production more intensified, as the frame is inclined to show more strength and the general form more ruggedness of constitution. While the type should show the angular form which is conducive to the highest butter production, yet those features which contribute to beauty, the head and neck, should not be wholly without the graceful lines so characteristic of the breed. See scale of points, page 96.



Guernsey cow GLENCOE'S BOPEER. Champion cow of her breed at the National Dairy Show in 1911. Shown by W. W. Marsh, Waterloo Iowa.

DESCRIPTION OF GUERNSEY CATTLE

THE GUERNSEY cattle coming from the island of that name have not had attached to them any peculiar requirements as to the type or markings, as these have been allowed to evolve themselves as the breed developed under the patronage of the Royal Agricultural Society of the island. Being carefully protected from the intrusions of blood from foreign sources they have become of a distinct type and their markings and color have necessarily assumed uniformity. The greatest production of butter has been the aim and the evolution of the breed and this has evolved the type of large capacity, necessarily strong in frame without any encouragement being given to the finer lines of beauty. The color is usually some shade of fawn with white markings, but this is considered subordinate to the color of the skin, which should be of a rich orange tinge. The head in all its lineaments should show refinement, the nostril and mouth large, the face slightly dished and clearly chiseled, the eye large and full with the top of the head surmounted by delicate horns. The juncture of the head and neck should be trim and light and the latter slim. A sharp shoulder should run into a deep chest and the latter should swell into a roomy barrel. The back should be sharp and straight and the hind quarters completely free from fleshiness with a thin thigh. The udder is a leading consideration and it should be long with full, circular form and teats large and the milk veins prominent, branched and tortuous. See the elaborate official scale of points, page 99.

body showing that she is an animal of nervous organization and further that she utilizes all her foods for the making of milk and not for the filling out of her form.

In a good dairy cow there is a feminine look that is very characteristic. There is no thickening of the neck, or a crest on the neck, or any heaviness of the fore quarters indicating the slightest masculinity, but all of these parts are light, clean cut and in every way indicative of feminine character. The size of the dairy cow comes into the discussion of type. This has something to do with her performance, but there is no distinct advantage in having a cow very large if there is not with it characteristics which indicate enlarged dairy qualities.

134. Skin—Soft, Fine. The skin should be soft and comparatively thin. It is a point of much value to discriminate against a thin, papery skin, as such is usually associated with the weakness of constitution. The skin should be unctuous, or oily to the touch, giving the impression that butter might be squeezed out of it. When the secretions of the skin are healthy it may be expected that the secretions in the rest of the body are going on vigorously. The skin lining the ear should be of a golden color and so should that in the region of the udder, inside the thighs, around the eyes, at the root of the tail and below any spots of white hair.

135. Hair—Silky, Fine. The hair covering all the body should be short, soft and silky. The udder especially should be covered with hair of this character, and not with long, coarse hair, as is often observed on poor milking animals. Coarse, harsh hair is generally an indication of lack of refinement and an evidence of unthriftiness.

136. Bone—Fine Texture. The dairy cow in her daily life needs but sufficient bone to maintain her form. As a rule the milking cows are loose in form but possessed of fine quality. There should not be any appearance of weakness due to fineness, yet the form should not be coarse and heavy.

137. Head—Feminine, Lean, Long. A very essential quality is for the head to have a feminine appearance. The ideal head of a cow is devoid of the heaviness and coarseness characteristic of the bull. Just as milk giving is a peculiar trait of the cow so is fineness in the head. The face should be long and especially lean with the features very distinct. The eye should be full, mild and bright, and more or less active. A kindly disposition is reflected by a mild eye, while one that is bright is indicative of vigorous circulation and good health. Large, dilated nostrils permitting easy entrance of air to the lungs, with prominent windpipe, are usually associated with depth of chest and lung capacity. In size the ear should be medium, possessed of fine quality, and a rich orange color inside. The strong horn of the bull is not desirable, but rather one that is small and fine in quality. The poll should be prominent, with the forehead broad and full, showing strong development of brain.

138. Neck—Thin. A slim, fine neck carrying the head gracefully is a characteristic that adds much to the appearance of a dairy cow. The fullness and heaviness here which characterizes the beef animal should be completely absent. The neck must be thin and join an equally thin and bare shoulder, with the withers sharp but yet quite open.

The performing powers of the dairy cow depend greatly on the depth and volume of the barrel. It has been noted the important part that the heart, lungs and stomach perform in the work of a dairy cow, so that the necessity of having a barrel that will afford ample room for the work of these will be readily apparent. The ribs should be long to supply storage capacity for food. The backbone should be prominent and strong, for through it and under it run two of the largest channels, representing two of the most vital systems of the body, the nervous and the circulatory.

139. Hind Quarter—Lean, Elevated. As a whole, the hind quarter in a deep milking cow is strikingly free from fleshiness, and there is usually a slight raise in the quarter

from the loin to the attachment of the tail. Some think this conformation indicates vigor, but a more reasonable view of the merit of the point asserts that it is to some extent unfavorable for the premature birth of calves.

140. Hips—Sharp, Wide Apart. The hip bones should be prominent, sharp and wide apart, giving plenty of room to the generative organs. From the point of the hip to the tail-head there should be a marked hollow or skrinkage, due to the absence of the flesh, a condition characteristic of heavy performers when in full milk.

141. Thigh—Thin, In-curving. The thigh, for the same reason should be thin and retreating and possessed of length. A thin thigh, decidedly in-curving is a noteworthy feature. Attention has been drawn to the use of the tail as a plumb line to determine the degree to which the thigh curves.

142. Escutcheon—High, Wide, Spreading. Viewing the thighs and the region of the cow above the udder, it will be observed that on this part the hair runs in the opposite direction from that to which it inclines on the other parts of the body. Where it does this, it is known as the escutcheon, to which attention was first directed by Guenon. It is supposed that the reason of this hair growing in the direction mentioned is due to the artery which passes this part. The artery supplying the udder with blood also nourishes the skin on which the escutcheon grows. Many have the idea that Guenon considered this the only point of value in determining the worth of a cow. The fact is that he considered it only one of ten to be included in the merits of a first-class dairy cow. There is some reason for considering the escutcheon as it is undoubtedly to a degree an index of the quantity of blood received by the udder, for the same reason that the milk veins are of value as they indicate the quantity of blood that leaves the udder. In 1878 a commission was appointed by the Governor of Pennsylvania to inquire into the reliability of this point, and they reported in its favor.

It is unnecessary to go into the details of the various classes of escutcheons as Guenon enumerates eight classes and eight orders or, in other words, eight different shapes and eight different sizes. He claimed that the shape was indicative of the quantity and the size was an index of the duration of the milk flow. The broader it extends over the thigh and the greater the length of it the better the escutcheon is considered to be. Guenon believed that the thigh escutcheon indicated the quantity of milk the cow gave, while the upper portion or vertical escutcheon the length of time she would milk, and with these he considered the feel of the skin, the character of the hair, and the color of the skin as indicative of the quality of the milk. With these features he also associated "the thigh ovals" on the udder just above the hind teats, for in his view an escutcheon was not considered of a high order without them.

143. Udder—Long, Plastic. When empty the udder should nearly lose its form and appear to consist of folds of soft, pliable and elastic skin. The hind quarter should be full behind and attached high, while the fore quarter should extend far forward. Length in the udder is important, as it gives a long line of absorption. It should be fully thirty inches long from the attachment at the back to where it joins the belly. It is to be remembered that the udder not only secretes milk from the blood and hence is an important organ, but it is also a receptacle for holding the milk. In Bulletin 62 issued by Purdue University, Professor Plumb presents some instructive studies of this important organ.

144. Teats—Evenly Placed. These should be just large enough to fill the hand and yield milk easily but never leak. They should be evenly placed, standing at least six inches apart in all directions when the udder is full.

145. Milk Veins—Large, Branching. The milk veins are considered important as they indicate the amount of blood that has passed through the udder. In a cow that

has recently dropped her calf they should be very prominent and full and branched. The milk wells through which the veins pass into the body of the cow are indicative of the size of the milk veins and consequently they should receive consideration, especially when the cow is dry, for at that time the milk veins themselves are not in evidence.

SCALE OF POINTS FOR DAIRY CATTLE—COW.

	Perfect Score
GENERAL APPEARANCE:	
Form, inclined to be wedge shaped.....	6
Quality, hair fine, soft; skin, mellow, loose, medium thickness; secretion yellow; bone clean, fine.....	6
Temperament, nervous, indicated by lean appearance when in milk	6
HEAD AND NECK:	
Muzzle, clean cut; mouth large; nostrils large.....	1
Eyes, large, bright, full, mild	1
Face, lean, long, quiet expression	1
Forehead, broad	1
Ears, medium size, yellow inside, fine texture.....	1
Horns, fine texture, waxy	1
Neck, fine, medium length, throat clean, light dewlap.	1
FORE QUARTERS:	
Withers, lean, thin	1
Shoulders, light, oblique	2
Legs, straight, short; shank fine	2
BODY:	
Chest, deep, low, girth large with full fore flank.....	10
Barrel, ribs broad, long, wide apart; large stomach...	10
Back, lean straight, open jointed	2
Loin, broad	2
Navel, large	2
HIND QUARTERS:	
Hips, far apart, level	2
Rump, long, wide	2
Pin Bones or Thurls, high, wide apart.....	1
Tail, long, slim; fine hair in switch.....	1
Thighs, thin, long	4
Escutcheon, spreading over thighs, extending high and wide; large thigh ovals	2
Udder, long, attached high and full behind, extending far in front and full, flexible; quarters even and free from fleshiness	20
Teats, large, evenly placed.....	5
Mammary Veins, large, long, tortuous, branched with double extension; large and numerous milk wells.	5
Legs, straight; shank fine.....	2
Total.....	100

IV. JUDGING DAIRY BULLS.

146. Judging Dairy Bulls. In judging dairy bulls many points may be noted that they have in common with dairy cows, especially features of type, but it is a much more difficult task to judge between those of this sex than it is to discriminate between developed cows.

147.—Purity of Breeding. It seems necessary to say that the first requirement in the dairy bull, as in the instance of all other stock sires, is purity of breeding. The sire should meet all the requirements demanded of a pure-bred animal for registration. In addition the dairy sire should have the characteristics which are called for by the scale of points for the breed represented.

148. Uniformity of Breeding. To secure the greatest prepotency in a sire, the breeding for some generations back must show a uniformity in the type and characteristics of the ancestry. When the animals mentioned in a pedigree lack uniformity, or have been dissimilar in type and characteristics, it is not probable that the progeny will show that uniformity which every breeder desires to see in the herd.

149. Pedigree Based on Performance. The most valuable characteristic relating to the pedigree of a dairy bull is the number and the merit of the records that have been made by the cows that are named in it. This feature is not usually considered in the show ring, though it should be carefully studied in selecting a bull to breed to. The most important feature of the pedigree of a dairy sire is the degree to which his dam was a good dairy cow, and in a lessening degree the records of those that preceded her. Next in importance to this is the number and the merit of the performances of the cows that are mentioned in the sires' line. Not only should the dams in the pedigrees have good records as performers, but the males should also be getters of performers. A bull that has breeding of high order based on perform-

ance, is as certain as things can be to sire superior stock, provided he is satisfactory as an individual.

150. Qualities Associated with Individuality. Impressive power or prepotency and constitution are indicated to a certain extent by the individual. The first mentioned may be estimated with some certainty by the masculine appearance of the bull in the head, horn, and crest; while the constitution is reflected by the depth of chest, the size of the navel and the general appearance of the hair, hide, and eye, as these are closely associated with thrift and vigor. The type in other respects should be that outlined for the dairy cow. A very common defect in the form of the dairy bull is roundness of the hips and undue fullness of the thighs, traceable to heaviness of flesh in these regions.

The hip bones and the hocks should be prominent and between these points there may be some falling away and there should be no tendency towards fatness in this region. The undeveloped teats should be large and well placed and the navel should be prominent. The skin, especially where it gathers in loose folds between the thighs and at other points, should be soft, pliable and rich in color. All points should show much more openness and relaxation than is customary in beef animals, for this characteristic appears to be prevalent among deep milking types.

151. Judging Calves. In the selection of the best calves the merit of the dam as a dairy cow is a valuable guide but it is not a point that is usually employed in show yard judging. In reference to the form of heifer calves the type of the typical dairy cow in miniature is the most desirable. The long face, the thin neck, light shoulder, sharp withers, deep chest, large capacious body, wide, long and thin rump, thin thighs, mellow hide of red color and soft hair should all be in evidence. The folds of skin in the udder regions should be loose and pliable. The teats should not be bunched together but

wide apart and evenly placed. It is desirable to have the navel of such size that it may be easily noticed, and the form in every part should have the open and relaxed condition referred to in discussing developed cows. The bull calf differs in no marked degree from the heifer calf until it approaches the age of one year when the sex characteristics have developed to a noticeable extent.

V. OFFICIAL STANDARDS OF EXCELLENCE FOR CATTLE.

ABERDEEN ANGUS CATTLE.

SCALE OF POINTS ADOPTED BY AMERICAN
ABERDEEN ANGUS ASSOCIATION—BULL.

	Counts
Color —Black. White is objectionable, except on the underline behind the navel, and there only to a moderate extent; a white cod is most undesirable.	3
Head —Forehead broad; face slightly prominent, and tapering toward the nose; muzzle fine; nostrils wide and open; distance from eyes to nostrils of moderate length; eyes mild, full and expressive, indicative of good disposition; ears of good medium size; well set and well covered with hair; poll well defined, and without any appearance of horns or scurs; jaws clean.	10
Throat —Clean, without any development of loose flesh underneath	3
Neck —Of medium length, muscular, with moderate crest (which increases with age), spreading out to meet the the shoulders, with full neck vein	3
Shoulders —Moderately oblique, well covered on the blades and top; with vertebra or backbone slightly above the scapula or shoulder blades, which should be moderately broad	6
Chest —Wide and deep, also round and full just back of elbows	10
Brisket —Deep and moderately projecting from between the legs, and proportionately covered with flesh and fat.	4
Ribs —Well sprung from the backbone, arched and deep, neatly joined to the crops and loins	8
Back —Broad and straight from crops to hooks; loins strong; hook bones moderate in width, not prominent and well covered; rumps long, full, level and rounded neatly into hind quarters	10
Hind Quarters —Deep and full; thighs thick and muscular, and in proportion to hind quarters; twist filled out well in its "seam" so as to form an even wide plane between thighs	8

ABERDEEN ANGUS CATTLE.

BULL—CONTINUED.

	Counts
Tail —Fine, coming neatly out of the body on a line with the back and hanging at right angles to it.....	3
Underline —Straight, as nearly as possible; flank, deep and full	4
Legs —Short, straight and squarely placed, hind legs slightly inclined forward below the hocks; forearm muscular; bones fine and clean	4
Flesh —Even and without patchiness.....	4
Skin —Of moderate thickness and mellow touch, abundantly covered with thick soft hair. (Much of the thriftiness, feeding properties, and value of the animal depend upon this quality, which is of great weight in the grazier's and butcher's judgment. A good "touch" will compensate for some deficiencies of form. Nothing can compensate for a skin hard and stiff. In raising the skin from the body it should have a substantial, soft, flexible feeling, and when beneath the outspread hand it should move easily as though resting on a soft cellular substance, which however becomes firmer as the animal ripens. A thin papery skin is objectionable, especially in a cold climate).....	10
General Appearance —Elegant, well bred and masculine. The walk square, the step quick, and the head up....	10
Total	100
When bulls are exhibited with their progeny in a separate class, add 25 counts for progeny.	

SCALE OF POINTS ADOPTED BY AMERICAN
ABERDEEN ANGUS ASSOCIATION—COW.

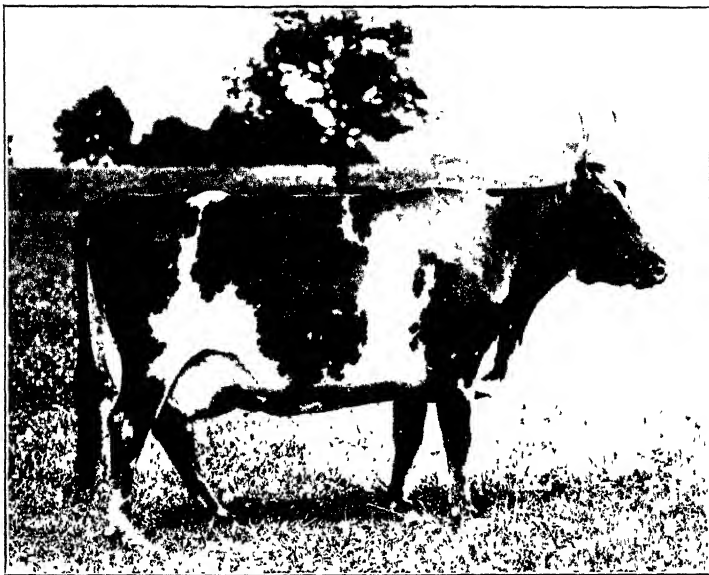
	Counts
Color —Black. White is objectionable, except on the underline behind the navel and there only to a moderate extent	2
Head —Forehead moderately broad and slightly indented; tapering toward the nose; muzzle fine; nostrils wide and open; distance from eyes to nostrils of moderate length; eyes full, bright and expressive, indicative of good disposition; ears large, slightly rising upward, and well furnished with hair; poll well defined, and without any appearance of horns or scurs; jaws clean.	10
Throat —Clean, without any development of loose flesh underneath	3
Neck —Of medium length, spreading out to meet the shoulders, with full neck vein	3
Shoulders —Moderately oblique, well covered on the blades and top; with vertebra or backbone slightly above the scapula or shoulder blades, which should be moderately broad	6
Chest —Wide and deep; round and full just back of elbows	10
Brisket —Deep and moderately projecting from between the legs, and proportionately covered with flesh and fat..	4

ABERDEEN ANGUS CATTLE,

COW—CONTINUED.

	Counts
Ribs —Well sprung from the backbone, arched and deep, neatly joined to the crops and loins.....	8
Back —Broad and straight from crops to hooks; loins strong; hook bones moderate in width, not prominent, and well covered; rumps long, full, level and rounded neatly into hind quarters.....	10
Hind Quarters —Deep and full; thighs thick and muscular, and in proportion to hind quarters; twist filled out well in its "seam" so as to form an even wide plane between thighs	8
Tail —Fine, coming neatly out of the body on a line with the back and hanging at right angles to it.....	3
Udder —Not fleshy, coming well forward in line with the body and well up behind; teats squarely placed, well apart and of good size.....	8
Underline —Straight, as nearly as possible, flank deep and full	4
Legs —Short, straight and squarely placed; hind legs slightly inclined forward below the hocks; fore arm muscular; bones fine and clean.....	3
Flesh —Even and without patchiness.....	3
Skin —Of moderate thickness and mellow touch, abundantly covered with thick, soft hair. (Much of the thriftiness, feeding properties and value of the animal depend upon this quality, which is of great weight in the grazier's and butcher's judgment. A good "touch" will compensate for some deficiencies of form. Nothing can compensate for a skin hard and stiff. In raising the skin from the body it should have a substantial, soft, flexible feeling, and when beneath the outspread hand it should move easily, as though resting on a soft, cellular substance, which, however, becomes firmer as the animal ripens. A thin, papery skin is objectionable, especially in a cold climate).....	10
General Appearance —Elegant, well bred and feminine. The walk square, the step quick, and the head up.....	5
Total	100

In judging heifers omit No. 12, and add 3 counts to "Flesh" and 5 counts to General Appearance.



Ayrshire Cow. AUCHENBRAIN BROWN KATE 4th 27943. A. R. 547.

One year record: 23,022 lbs. milk; 3.99% fat; 9,176 lbs. fat; 1,080 lbs. butter.
representatives of this breed. See official scale of points, pages 104-106.

DESCRIPTION OF AYRSHIRE CATTLE.

THIS BREED of Scotch dairy cattle originated under the rugged conditions of Ayrshire and in their type and general characteristics they exemplify the form and quality which would be called for in a dairy animal required to make the most economical use of their food and do the best under conditions too severe for finer and more delicate cattle. The head is slim, rather long in the face and surmounted with a horn not wholly devoid of strength; the neck, somewhat short is clean cut though not delicate, the shoulder is sharp and the chest full and deep, the body is straight in its top lines, slightly more compact than usually found in the dairy type, but has the volume which invariably results in large capacity for consumption and production. The hind quarter is moderately wide and covered with flesh while the thigh is thin and the udder long and excellent in its proportion. The size and the placing of the teats is a feature which calls for careful attention in ranking representatives of this breed. See official scale of points, pages 105 and 106.



Holstein-Friesian cow COLANTHA 4th in her four year old and six year old form The lower illustration is a photo of her as a four year old. Compare this with the upper, which is a photo of her as a six year old, and the changes that take place in a dairy cow as she approaches maturity may be seen This cow is owned by Messrs. Gillett & Son, of Rosendale, Wis, and her records are as follows:

AGE.	Milk, 1 day	Butter, 1 w'k	Milk, 1 y'r	Butter Fat, 1 y'r.
2 years.....	52 2 lbs.	14.1 lbs.	12,463 4 lbs.	
3 years.....	64 8 lbs.	18 7 lbs	14,951 5 lbs	577.7 lbs.
4 years.....	70 2 lbs	21 1 lbs.	13,992.2 lbs.	532.9 lbs
5 years			14,481 8 lbs	
6 years.	77.3 lbs	24 5 lbs.	14,782 7 lbs.	562.9 lbs.

This cow was also first in the official tests of the Holstein-Friesian Association in 1900, and also winner of first prize in tests for economy of production making 19 6 lbs. fat in one week at a food cost of 6 3-5 cents per pound.

DESCRIPTION OF HOLSTEIN-FRIESIAN CATTLE.

THE ORIGINAL type of this breed had more size of frame than that which characterizes the modern representative The conditions existing have favored the production of a large dairy animal with extreme development for yielding milk. The type which is now common shows more refinement but still has the characteristics in the main which identified the first importations The color should be black and white, with no mixture of this or tinge of brown. The head should be lengthy, generally because of a long face, the eye should be large and bright and that portion of the head between the horn and the eye should be full The neck should be slim and lengthy, the shoulder sharp and fitting well while the chest should be deep and the body have for its most noted feature a large development of the digestive organs. The loins should be strong though bare of flesh and the hind quarters straight and angular and the thighs thin The frame should show as much refinement as possible without any indication of delicacy. The general conformation should be such as to favor large capacity for the consumption of food and the production of the largest quantity of milk. See official scale of points page 94.

HEREFORD CATTLE.

SCALE OF POINTS FOR HEREFORD CATTLE.

	Counts
Color —Medium, deep, rich red, with white head, breast, belly, crest, switch and ankles. Objections: White back of crop high on flank or too high on legs.....	5
Head —Forehead broad and prominent, face short, slightly tapering towards nose; muzzle full; nostrils wide and open; eyes large and expressive; ears of medium size, well set and well covered with hair; horns of medium size; even color, coming from head at right angles, set on level with crops, back and tail head, curving forward and downward.....	8
Throat —Clean, without any excessive development of loose flesh or fat underneath.....	2
Neck —Short, neat, spreading out to meet shoulders, with full neck vein, free from loose skin. (Males: neck muscular, with full crest according to age.).....	2
Shoulders —Straight, round, full, smooth and well covered; top of shoulder blades slightly below vertebrae, good width on top.....	6
Chest —Wide, deep, round and full just back of shoulders	6
Brisket —Deep and wide, moderately projecting, free from flabbiness	2
Ribs —Well sprung from backbone, close together, long and arched, carrying the full width of shoulders and deeply and smoothly covered.....	8
Back and Loin —Broad, straight and heavily covered from crops to hooks, hooks moderately wide and well covered	10
Rump —Long, wide, smooth and well covered, carrying width in proportion to width of back and hooks, joining smoothly into quarters.....	5
Quarters —Long, straight, muscular, full, deep and thick	4
Thigh and Twist —Full and thick, carried well down to hocks	3
Tail —Tail head level with line of back, tail dropping at right angles to back line.....	1
Underline —Straight, flanks deep and full.....	3
Legs —Short, straight and squarely placed, perpendicular both from side and end view, forearm muscular, bones strong and clean.....	6
Flesh —Deep, firm, smooth, uniform covering of all parts and free from patchiness.....	8
Skin —Of moderate thickness, mellow, pliable and loose, abundantly covered with long, thick, silky hair.....	6
General Appearance —Vigorous, compact and symmetrical. Bulls masculine and possessing an abundance of quality and predominant breeding characteristics. Females matronly, roomy, smooth, showing quality and feminine appearance throughout.....	10
Weight —Age and condition to be considered.....	5

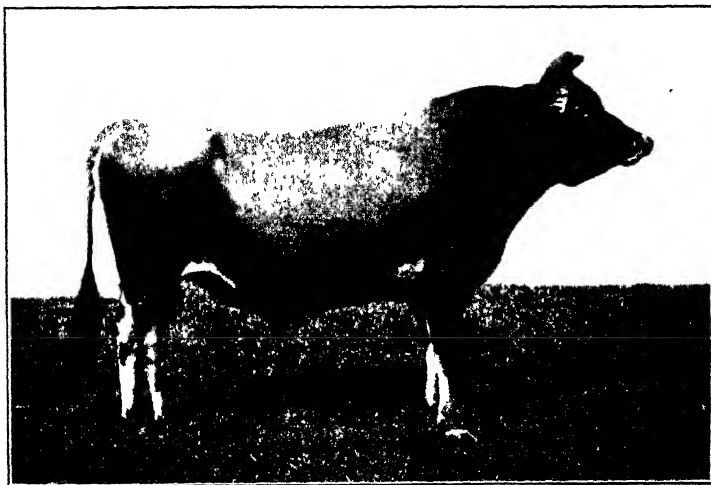
HOLSTEIN-FRIESIAN CATTLE.

SCALE OF POINTS FOR HOLSTEIN-FRIESIAN BULL.

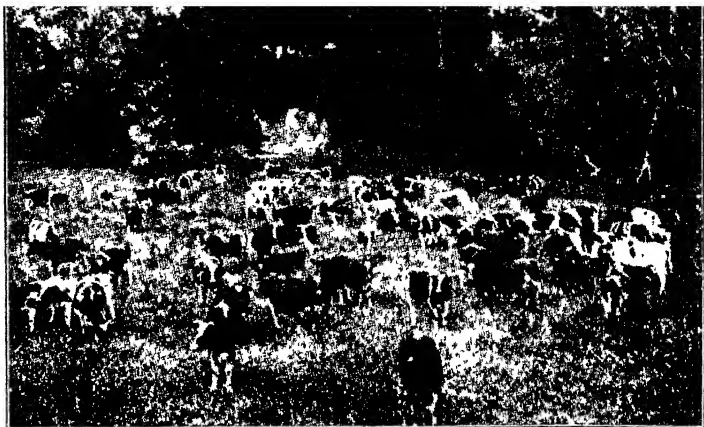
	Counts
Head —Showing full vigor; elegant in contour.....	2
Forehead —Broad between the eyes; dishing.....	2
Face —Of medium length; clean and trim, especially under the eyes; the bridge of the nose straight.....	2
Muzzle —Broad, with strong lips.....	1
Ears —Of medium size; of fine texture; the hair plentiful and soft; the secretions oily and abundant.....	1
Eyes —Large; full; mild; bright.....	2
Horns —Short; of medium size at base; gradually diminishing towards tips; oval; inclining forward; moderately curved inward; of fine texture; in appearance waxy	1
Neck —Long; finely crested (if the animal is mature); fine and clean at juncture with the head; nearly free from dewlap; strongly and smoothly joined to shoulders	5
Shoulders —Of medium height; of medium thickness, and smoothly rounded at tops; broad and full at sides; smooth over front.....	4
Chest —Deep and low; well filled and smooth in the brisket; broad between the forearms; full in the foreflanks (or through at the heart).....	7
Crops —Comparatively full; nearly level with the shoulders	4
Chine —Strong; straight; broadly developed, with open vertebrae	6
Barrel —Long; well rounded; with large abdomen, strongly and trimly held up.....	7
Loins and Hips —Broad; level or nearly level between hook-bones; level and strong laterally; spreading out from the chine broadly and nearly level; the hook-bones fairly prominent	7
Rump —Long; broad; high; nearly level laterally; comparatively full above the thurl; carried out straight to dropping of tail.....	7
Thurl —High; broad	4
Quarters —Deep; broad; straight behind; wide and full at sides; open in the twist.....	5
Flanks —Deep; full	2
Legs —Comparatively short; clean and nearly straight; wide apart; firmly and squarely set under the body; arms wide, strong and tapering; feet of medium size, round, solid and deep.....	5
Tail —Large at base, the setting well back; tapering finely to switch; the end of bone reaching to hocks or below; the switch full.....	2



Holstein Bull PAUL COLAMO KORNDYKE 49342 Grand Champion at
the National Dairy Show, Chicago, 1912.



Jersey Bull. VIOLA'S GOLDEN JOLLY.



Holstein herd owned by Messrs W B Smith & Sons, of Columbus, O. In this remarkable photograph of a large herd there cannot be found a single animal which does not illustrate desirable dairy type



Photo by Schreiber.

Photograph of the head of the Jersey cow, BUTTERCUP This photograph shows in an unusual degree the conformation of head and neck which is desirable in a highly bred Jersey

SCALE OF POINTS FOR HOLSTEIN-FRIESIAN BULL

Continued

	Counts
Hair and Handling —Hair healthful in appearance; fine, soft, and furry; skin of medium thickness and loose; mellow under the hand; the secretions oily, abundant and of a rich brown or yellow color.....	10
Mammary Veins —Large; full; entering large orifices; double extension; with special development, such as forks, branches, connections, etc.....	10
Rudimentary Teats —Large; well placed.....	2
Escutcheon —Largest; finest	2
	100

SCALE OF POINTS FOR HOLSTEIN-FRIESIAN COW.

Head —Decidedly feminine in appearance; fine in contour	2
Forehead —Broad between the eyes; dishing.....	2
Face —Of medium length; clean and trim, especially under the eyes; showing facial veins; the bridge of the nose straight	2
Muzzle —Broad, with strong lips.....	1
Ears —Of medium size; of fine texture; the hair plentiful and soft; the secretions oily and abundant.....	1
Eyes —Large; full; mild; bright.....	2
Horns —Small; tapering finely towards the tips; set moderately narrow at base; oval; inclining forward; well bent inward; of fine texture; in appearance waxy	1
Neck —Long; fine and clean at juncture with the head; free from dewlap; evenly and smoothly joined to shoulders	4
Shoulders —Slightly lower than the hips; fine and even over tops; moderately broad and full at sides.....	3
Chest —Of moderate depth and lowness; smooth and moderately full in the brisket; full in the foreflanks (or through at the heart).....	6
Crops —Moderately full	2
Chine —Straight; strong; broadly developed, with open vertebrae	6
Barrel —Long; of wedge shape; well rounded; with a large abdomen, trimly held up. (In judging the last item age must be considered.).....	7
Loin and Hips —Broad; level or nearly level between the hook-bones; level and strong laterally; spreading from chine broadly and nearly level; hook-bones fairly prominent	6
Rump —Long; high; broad with roomy pelvis; nearly level laterally; comparatively full above the thurl; carried out straight to dropping of tail.....	6
Thurl —High; broad	3

JUDGING CATTLE

SCALE OF POINTS FOR HOLSTEIN-FRIESIAN COW

Continued

	Counts
Quarters —Deep; straight behind; twist filled with development of udder; wide and moderately full at the sides	4
Flanks —Deep; comparatively full	2
Legs —Comparatively short; clean and nearly straight; wide apart; firmly and squarely set under the body; feet of medium size, round, solid and deep.....	4
Tail —Large at base, the setting well back; tapering finely to switch; the end of the bone reaching to hocks or below; the switch full.....	2
Hair and Handling —Hair healthful in appearance; fine, soft and furry; the skin of medium thickness and loose; mellow under the hand; the secretions oily, abundant and of a rich brown or yellow color....	8
Mammary Veins —Very large; very crooked (age must be taken into consideration in judging of size and crookedness); entering very large or numerous orifices; double extension; with special developments, such as branches, connections, etc.....	10
Udder —Very capacious; very flexible; quarters even; nearly filling the space in the rear below the twist; extending well forward in the front; broad and well held up	12
Teats —Well formed; wide apart; plumb and of convenient size	2
Escutcheon —Largest; finest	2
	100

JERSEY CATTLE.

SCALE OF POINTS FOR JERSEY COW, ADOPTED AT ANNUAL MEETING OF THE AMERICAN JERSEY CATTLE CLUB, MAY 7, 1913.

Dairy Temperament and Constitution.

Head, 7.—

A—Medium size, lean; face dished; broad between eyes; horns medium size, incurving.....

B—Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide open nostrils and muscular lips; jaw strong.....

Neck, 4.—

Thin, rather long, with clean throat, neatly joined to head and shoulders.....

Body, 37.—

A—Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of fore legs.....

JERSEY CATTLE—COW

Continued

	Counts
B—Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong muscular development.....	10
C—Back straight and strong, with prominent spinal processes; loins broad and strong.....	5
D—Rump long to tail-setting, and level from hip-bones to rump-bones	6
E—Hip-bones high and wide apart.....	3
F—Thighs flat and wide apart, giving ample room for udder	3
G—Legs proportionate to size and of fine quality, well apart, with good feet, and not to weave or cross in walking	2
H—Hide loose and mellow.....	2
I—Tail thin, long, with good switch, not coarse at setting-on	1
Mammary Development.	
Udder, 26.—	
A—Large size, flexible and not fleshy.....	6
B—Broad, level or spherical, not deeply cut between teats	4
C—Fore udder full and well rounded, running well forward of front teats.....	10
D—Rear udder well rounded, and well out and up behind	6
Teats, 8.—	
Of good and uniform length and size, regularly and squarely placed	8
Milk-Veins, 4.—	
Large, long, tortuous and elastic, entering large and numerous orifices	4
Size, 4.—	
Mature cows, 800 to 1,000 pounds.....	4
General Appearance, 10.—	
A symmetrical balancing of all the parts, and a proportion of parts to each other, depending on size of animal, with the general appearance of a high-class animal, with capacity for food and productiveness at pail	10
	<hr/> 100

SCALE OF POINTS FOR JERSEY BULL, ADOPTED AT ANNUAL
MEETING OF THE AMERICAN JERSEY CATTLE
CLUB, MAY 7, 1913.

	Counts
Head, 10.—	
A—Broad, medium length; face dished; narrow between horns; horns medium in size and incurving	5
B—Muzzle broad, nostrils open, eyes full and bold; entire expression one of vigor, resolution and masculinity	5
Neck, 7.—	
Medium length, with full crest at maturity; clean at throat	7
Body, 57.—	
A—Shoulders full and strong, good distance through from point to point, with well-defined withers; chest deep and full between and just back of fore legs	15
B—Barrel long, of good depth and breadth, with strong, rounded, well-sprung ribs	15
C—Back straight and strong	5
D—Rump of good length and proportion to size of body, and level from hip-bones to rump-bones	7
E—Loins broad and strong; hips rounded, and of medium width compared with female	7
F—Thighs rather flat, well cut up behind, high arched flank	3
G—Legs proportionate to size and of fine quality, well apart, with good feet, and not to weave or cross in walking	5
Rudimentary Teats, 2.—	
Well placed	2
Hide, 2.—	
Loose and mellow	2
Tail, 2.—	
Thin, long, reaching the hock, with good switch, not coarse or high at setting-on	2
Size, 5.—	
Mature bulls, 1,200 to 1,500 pounds	5
General Appearance, 15.—	
Thoroughly masculine in character, with a harmonious blending of the parts to each other; thoroughly robust, and such an animal as in a herd of wild cattle would likely become master of the herd by the law of natural selection and survival of the fittest	15
	100

GUERNSEY CATTLE.

SCALE OF POINTS ADOPTED BY THE AMERICAN
GUERNSEY CATTLE CLUB, DEC. 13, 1899—COW.

		Courts
	Clean cut, lean face; strong, sinewy jaw; wide muzzle with wide open nostrils; full, bright eye with quiet and gentle expression; forehead long and broad.....	5
	Long, thin neck with strong juncture to head; clean throat. Backbone rising well between shoulder blades; large rugged spinal processes, indicating good development of the spinal cord	5
Dairy Temper- ament. Con- stitution ..	Pelvis arching and wide; rump long; wide, strong structure of spine at setting on of tail. Long, thin tail with good switch; Thin, in-curving thighs	38 5
	Ribs amply and fully sprung and wide apart, giving an open, relaxed conformation; thin, arching flank....	5
	Abdomen large and deep, with strong muscular and navel development, indicative of capacity and vitality..	15
	Hide firm yet loose, with an oily feeling and texture but not thick.....	3
Milking Marks denoting quantity of flow	Escutcheon wide on thighs, high and broad with thigh ovals.....	2
	Milk veins crooked, branching and prominent, with large or deep wells	8
	Udder full in front.....	8
	Udder full and well up behind	8
Udder Forma- tion	Udder of large size and capacity....	4
	Teats wide apart, squarely placed and of good and even size.....	6
Indicating Col- or of Milk..	Skin deep yellow in ear, on end of bone of tail, at base of horns, on udder, teats and body generally. Hoof, amber colored.....	15
Milking Marks denoting qual- ity of flow..	Udder showing plenty of substance but not too meaty	6
	Color of hair, a shade of fawn with white markings. Cream colored nose. Horns amber colored, small, curved and not coarse. Hoofs amber colored	3
Symmetry and Size	Size for the breed: Mature cows four years old or over about 1,050 pounds	2
	Total	100

SCALE OF POINTS ADOPTED BY THE AMERICAN GUERNSEY CATTLE CLUB, DEC. 13, 1899—BULL.		Counts
Temperament. Constitution 38	Clean cut, lean face; strong, sinewy jaw; wide muzzle with wide open nostrils; full, bright eye with quiet gentle expression; forehead long and broad	5
	Long Masculine neck with strong juncture to head; clean throat. Backbone rising well between shoulder blades; large, rugged spinal processes, indicating good development of the spinal cord.....	5
	Pelvis arching and wide; rump long; wide, strong structure of spine at setting on of tail. Long, thin tail with good switch. Thin, in-curving thighs	5
	Ribs amply and fully sprung and wide apart, giving an open, relaxed conformation; thin, arching flank....	5
	Abdomen large and deep, with strong muscle and navel development, indicative of capacity and vitality....	15
	Hide firm yet loose, with an oily feeling and texture, but not thick.	3
Dairy Propensity .....15	As shown by having a great deal of vigor, style, alertness and resolute appearance	15
Rudimentaries and Milk Veins .. 10	Rudimentaries of good size, squarely and broadly placed in front of and free from scrotum. Milk veins prominent	10
Indicating color of Milk in Off- spring ....15	Skin deep yellow in ear, on end of bone of tail, at base of horns and body generally, hoofs amber colored....	15
Symmetry and Size .....22	Color of hair a shade of fawn with white markings. Cream colored nose. Horns amber colored, curving and not coarse.....	8
	Size for breed: Mature bulls four years old or over, about 1,500 lbs.....	4
	General appearance as indicative of the power to beget animals of strong dairy qualities.....	10
Total		100

EXPLANATORY NOTES BY COMMITTEE.

We recognize the Guernsey should be—

First. A dairy animal with a distinctive dairy temperament and conformation, having a strong, nervy structure with a corresponding flow of nervous energy, and every indication of capacity and vitality.

Second. In color of hair, a shade of fawn, with white on limbs and under part of body are considered the prevailing markings, and some degree of uniformity is desirable.

Third. One of the important distinguishing features of the breed is the presence of a yellow color in the pigment of the skin, which is indicative of rich golden color in the milk. This is very pronounced in the Guernsey and held by her to the greatest extent under all conditions of stabling and feed. The intensity of this trait is more marked in some animals and families than in others, but it should be kept at the highest standard. It is fast being recognized that this color is accompanied by a superior flavor in the milk and thus in the butter.

DAIRY TEMPERAMENT.

By "dairy temperament" is meant a strong overruling predisposition or tendency to turn the consumption of food towards the production of milk with a high content of solids, especially butter fat as against the constitutional tendency so often seen to turn food into flesh. Even in the strongest dairy breeds there are more or less frequent out-crops in male and female of the flesh-making temperament. To breed from such animals, while we are striving to establish a prepotent dairy temperament or tendency is not wise. All cattle bred specifically for dairy purposes should possess a clear and decided dairy temperament, for it is that quality of character we desire most to establish, enlarge and perpetuate in the Guernsey cow.

This is especially indicated by the shape of the head, showing brain capacity, wide muzzle, open nostril, full, bright eyes, feminine neck and a construction of the backbone indicating a strong flow of nerve power and support from the brain to all of the maternal organs.

CONSTITUTION.

In breeding our domestic animals, especially for long service like the dairy cow, it is very important that they should have abundant vital power which we call "constitution." But constitution must be judged and measured by the peculiar function the animal is bred to fulfill. With the race horse the function is speed; with the steer, the laying on of flesh; with the dairy cow, the production of milk solids. In all these various functions the animal that is to represent any one of them must show not only large capacity in the line of that function but also the ability to endure long and well the strain of such function and keep in good health. Constitution is best indicated by a full development at the navel and strong abdominal walls, showing that the animal when in the prenatal state was abundantly nourished by the mother through a well developed umbilical cord.

PREPOTENCY.

In the scale for bulls, for the first time, we believe, in the history of dairy breeds, this point is introduced. The reason we have included it is that "prepotency" is the chief consideration in the selection of all male breeding animals. The pedi-

gree and conformation is often all that can be desired, but because the bull is lacking in prepotent breeding power he is an expensive failure. This quality is in a sense, difficult to perceive or describe, but we know certain animals have it in a high degree and others fail of it completely. It is fairly well indicated by vigor of appearance, strong, resolute bearing and abundant nervous energy. We would distinguish this from an ugly disposition. A bull is ugly by the way he is handled rather than by his breeding. What we want is strong, impressive blood. A dull, sluggish spirit and action, we consider it indicative of a lack of true dairy prepotency, but we would prefer to breed to a rather sluggish appearing bull with first class rudimentaries than to a stylish one with badly placed rudimentaries.

RUDIMENTARY TEATS.

We consider that a well balanced and well shaped udder in the cow is largely due to the way the rudimentary teats are placed on the sire. If they are crowded close together the result is likely to be narrow, pointed udders. If they are placed well apart, of good size, and well forward of the scrotum, the effect we think will be to influence largely the production of well shaped udders in the resulting heifers and counteract the tendency to ill-shaped udders inheritable from dams deficient in this respect. We believe the future excellence of the Guernsey cow will be greatly aided by close attention on the part of her breeders to this point.

RED POLLED CATTLE.

DESCRIPTION OF STANDARD AND SCALE OF POINTS FOR RED POLLED CATTLE. COW.

<i>DISQUALIFICATIONS</i> —Scurs, or any evidence whatever of a horny growth on the head Any white spots on body above lower line or brush of tail.		
COLOR —Any shade of red. The switch of tail and udder may be white, with some white running forward to the navel. Nose of a clear flesh color. Interior of ears should be of a yellowish, waxy color		2
OBJECTIONS —An extreme dark, or an extreme light red is not desirable. A cloudy nose or one with dark spots.		
HEAD —Of medium length, wide between the eyes, sloping gradually from above eyes to poll. The poll well defined and prominent, with a sharp dip behind it in center of head. Ears of medium size and well carried. Eyes prominent; face well dished between the eyes. Muzzle wide with large nostrils.		6
OBJECTIONS —A rounding or flat appearance of the poll. Head too long and narrow.		
NECK —Of medium length, clean cut, and straight from head to top of shoulder with inclination to arch, when fattened, and may show folds of loose skin underneath when in milking form		3
SHOULDER —Of medium thickness and smoothly laid, coming up level with line of back.		6
OBJECTIONS —Shoulder too prominent, giving the appearance of weakness in heart girth. Shoulder protruding above line of back.		
CHEST —Broad and deep, insuring constitution. Brisket prominent and coming well forward		10
BACK AND RIBS —Back medium long, straight and level from withers to the setting on of tail; moderately wide, with spring of ribs, starting from the back bone, giving a rounding appearance, with ribs flat and fairly wide apart.		14
OBJECTIONS —Front ribs too straight, causing depression back of shoulders. Drop in back or loin below the top line.		

HIPS—Wide, rounding over the hooks, and well covered.....	3
QUARTERS—Of good length, full, rounding, and level, thighs wide, roomy, and not too meaty.....	6
OBJECTIONS—Prominent hooks, sunken quarters.	
TAIL—Tail head strong and setting well forward, long and tapering to a full switch	2
LEGS—Short, straight, squarely placed, medium bone.....	3
OBJECTIONS—Hocks crooked, legs placed too close together	
FORE-UDDER—Full and flexible, reaching well forward, extending down level with hind-udder... ..	10
HIND-UDDER—Full and well up behind.....	10
TEATS—Well placed, wide apart and of reasonably good size....	4
OBJECTIONS—Lack of development, especially in forward udder. Udder too deep, "bottle shaped" and teats too close together. Teats unevenly placed and either too large or too small.	
MILK VEINS—Of medium size, full, flexible, extending well forward. Well retained within the body, milk wells of medium size	6
HIDE—Loose, mellow, flexible, inclined to thickness, with a good full coat of soft hair.....	5
OBJECTIONS—Thin, papery skin, or wiry hair.	
CONDITION—Healthy, moderate to liberal flesh evenly laid on, glossy coat; animal presented in good bloom.....	10
Total	100
GENERAL DESCRIPTION—Cow medium wedge form, low set, top and bottom lines straight except at flank, weight 1300 lbs. to 1500 lbs. when mature and finished.	

BULL.

<i>DISQUALIFICATIONS—Scurs, or any evidence whatever of a horny growth on the head. Any white spots on body above lower line or brush of tail.</i>	
COLOR—Any shade of red. The switch of tail may be white, with some white running forward to the navel. Nose of a clear flesh color. Interior of ears should be of a yellowish, waxy color	2
OBJECTIONS—An extreme dark or an extreme light red is not desirable. A cloudy nose or one with dark spots.	
HEAD—Wide, strong and masculine, relatively short Poll stronger and less prominent than in cow. Ears of medium size and well carried; eyes prominent; muzzle wide with large nostrils	12
OBJECTIONS—Long, narrow, or lacking in masculine character.	
NECK—Of medium length, full crest, of good thickness, strong, of masculine appearance	5
SHOULDER—Of medium thickness and smoothly laid, coming up level with line of back.....	8
OBJECTIONS—Shoulder too prominent, giving the appearance of weakness in heart girth, shoulder protruding above line of back.	
CHEST—Broad and deep, insuring constitution. Brisket prominent and coming well forward.....	12
BACK AND RIBS—Back medium long, straight and level from withers to setting on of tail, moderately wide, with spring of ribs starting from the back bone, giving a rounding appearance, with ribs flat and fairly wide apart.....	14
OBJECTIONS—Front ribs too straight, causing depression back of shoulders. Drop in back or loin below the top line.	
HIPS—Wide, rounding over the hooks, and well covered	3
QUARTERS—Of good length, full, rounding, and level, thighs wide and moderately full, deep	6
OBJECTIONS—Prominent hooks, sunken quarters	
TAIL—Tail head strong and setting well forward, long and tapering to a full switch	2
LEGS—Short, straight, squarely placed, medium bone.....	3
OBJECTIONS—Hocks crooked; legs placed too close together.	
RUDIMENTARIES—Large, wide apart, and placed well forward. Position of rudimentaries	12
OBJECTIONS—Rudimentaries placed back on scrotum, or placed too close together, indicating tendency to transmit badly formed udders.	6
HIDE—Loose, mellow, flexible, inclined to thickness, with a good full coat of soft hair.....	5

OBJECTIONS—Thin, papery skin, or wiry hair.	
CONDITION—Healthy; moderate to liberal flesh evenly laid on; glossy coat; animal presented in good bloom.....	10
Total	100
GENERAL DESCRIPTION—Strong, impressive, low set, and of good carriage. Weight 1800 lbs. to 2000 lbs. when mature and finished.	

DUTCH BELTED CATTLE.

SCALE OF POINTS ADOPTED BY THE DUTCH BELTED CATTLE ASSOCIATION—COW.

	Counts
Body —Color black, with a clearly defined continuous white belt. The belt to be of medium width, beginning behind the shoulder and extending nearly to the hips..	8
Head —Comparatively long and somewhat dishing; broad between the eyes. Poll prominent; muzzle fine; dark tongue	6
Eyes —Black, full and mild. Horns long compared with their diameter	4
Neck —Fine and moderately thin and should harmonize in symmetry with the head and shoulders	6
Shoulders —Fine at top, becoming deep and broad as they extend backward and downward, with a low chest ...	4
Barrel —Large and deep with well developed abdomen; ribs well rounded and free from fat	10
Hips —Broad, and chine level, with full loin	10
Rump —High, long and broad ...	6
Hind Quarters —Long and deep, rear line in-curving. Tail long, slim, tapering to a full switch	8
Legs —Short, clean, standing well apart..	3
Udder —Large, well developed front and rear. Teats of convenient size and wide apart; mammary veins large, long, crooked, entering large orifices.....	20
Escutcheon	2
Hair —Fine and soft; skin of moderate thickness, of a rich dark or yellow color.....	3
Quiet Disposition and free from excessive fat.....	4
General Condition and apparent constitution.....	6
Total	100

FOR BULLS.

The scale of points for males shall be the same as those given for females, except that "Udder" shall be omitted and the bull credited 10 points for size and wide spread placing of rudimentary teats, 5 points additional for development of shoulder, and 5 additional points for perfection of belt.

AYRSHIRE CATTLE.

SCALE OF POINTS FOR AYRSHIRE BULL ADOPTED 1906.

Head	16
Forehead. Broad and clearly defined	2
Horn. Strong at base, set wide apart inclining upward	1
Face. Of medium length, clean cut, showing facial veins	2
Muzzle. Broad and strong without coarseness....	1
Nostrils. Large and open.....	2
Jaws. Wide at the base and strong.....	1
Eyes. Moderately large, full and bright.....	3
Ears. Of medium size and fine, carried alert.....	1
Expression. Full of vigor, resolute and masculine	3
Neck	10
Of medium length, somewhat arched, large and strong in the muscles on top, inclined to flatness on sides, enlarging symmetrically toward the shoulders, throat clean and free from loose skin.	
Fore Quarters	15
Shoulders. Strong, smoothly blending into body with good distance through from point to point and fine on top.....	3
Chest. Low, deep and full between back and fore-legs	8
Brisket. Deep, not too prominent and with very little dewlap	2
Legs and Feet. Legs well apart, straight and short, shanks fine and smooth, joints firm, feet of medium size, round, solid and deep.....	2
Body	18
Back. Short and straight, chine strongly developed and open jointed	5
Loin. Broad, strong and level.....	4
Ribs. Long, broad, strong, well sprung and wide apart	4
Abdomen. Large and deep, trimly held up with muscular development	4
Flank. Thin and arching.....	1
Hind Quarters	16
Rump. Level, long from hooks to pin bones.....	5
Hooks. Medium distance apart, proportionately narrower than in female, not rising above the level of the back.....	2
Pin Bones. High, wide apart.....	2
Thighs. Thin, long and wide apart	4
Tail. Fine, long and set on level with back.....	1
Legs and Feet. Legs straight, set well apart, shanks fine and smooth, feet medium size, round, solid and deep, not to cross in walking..	2
Scrotum. Well developed and strongly carried.....	3

AYRSHIRE CATTLE—BULL

Continued

Rudimentaries, Veins, etc.	Teats of uniform size squarely placed, wide apart and free from scrotum; veins long, large, tortuous with extensions entering large orifices; escutcheon pronounced and covering a large surface.....	4
Color.	Red of any shade, brown, or these with white; mahogany and white, or white; each color distinctly defined	3
Covering	.....	6
	Skin. Medium thickness, mellow and elastic.....	3
	Hair. Soft and fine.....	2
	Secretions Oily, of rich brown or yellow color... 1	
Style.	Active, vigorous, showing strong masculine character, temperament inclined to nervousness but not irritable or vicious.....	5
Weight.	At maturity not less than 1,500 pounds.....	4
Total	.....	100

SCALE OF POINTS FOR AYRSHIRE COW ADOPTED 1906.

Head	.....	10
	Forehead. Broad and clearly defined.....	1
	Horns. Wide set on and inclining upward.....	1
	Face. Of medium length, slightly dishd; clean cut, showing veins.....	2
	Muzzle. Broad and strong without coarseness, nostrils large.....	1
	Jaws. Wide at the base and strong.....	1
	Eyes. Full and bright with placid expression... 3	
	Ears. Of medium size and fine, carried alert.... 1	
Neck.	Fine throughout, throat clean, neatly joined to head and shoulders, of good length, moderately thin, nearly free from loose skin, elegant in bearing.....	3
Fore Quarters	.....	10
	Shoulders. Light, good distance through from point to point but sharp at withers, smoothly blending into body	2
	Chest. Low, deep and full between back and forelegs	8
	Brisket. Light	1
	Legs and Feet. Legs straight and short, well apart, shanks fine and smooth, joints firm; feet medium size, round, solid and deep.....	1
Body	.....	13
	Back. Strong and straight, chine lean, sharp and open-jointed	4
	Loin. Broad, strong and level.....	2
	Ribs. Long, broad, wide apart and well sprung... 3	
	Abdomen. Capacious, deep, firmly held up with strong muscular development.....	3
	Flank. Thin and arching.....	1



Holstein cows in the ring at the 1911 National Dairy Show.

THREE GENERATIONS OF INHERITED PRODUCTION.



IMP HAYES ROSIE, AGGREGATE AVE. 9.115
YEARS RECORD 14,532.0115 MILK, 74.3'10" 6 TERRA-
DAM OF IMP YEOMAN AND H.C. 194. ROSIE 1 VFR NEGL. 1.5



DOLLY BLOOM, A.G. 10.277 AVE. 40.4
YEARS RECORD 14,532.0115 MILK, 74.3'10" 6 TERRA-
RECORD 3 A. 194. 25.1.13.1.14 62394.156
RECORD 3 A. 194. 17.1.13.1.14 62352.1.15
DAM OF DOLLY DIMPLE



IMP YEOMAN, A.G. 10.277 AVE. 40.4
SC. 194. 25.1.13.1.14 62394.156
SC. 194. 17.1.13.1.14 62352.1.15



DOLLY DIMPLE, A.G. 10.277 AVE. 40.4
YEARS RECORD 14,532.0115 MILK, 74.3'10" 6 TERRA-
RECORD 3 A. 194. 25.1.13.1.14 62394.156
RECORD 3 A. 194. 17.1.13.1.14 62352.1.15

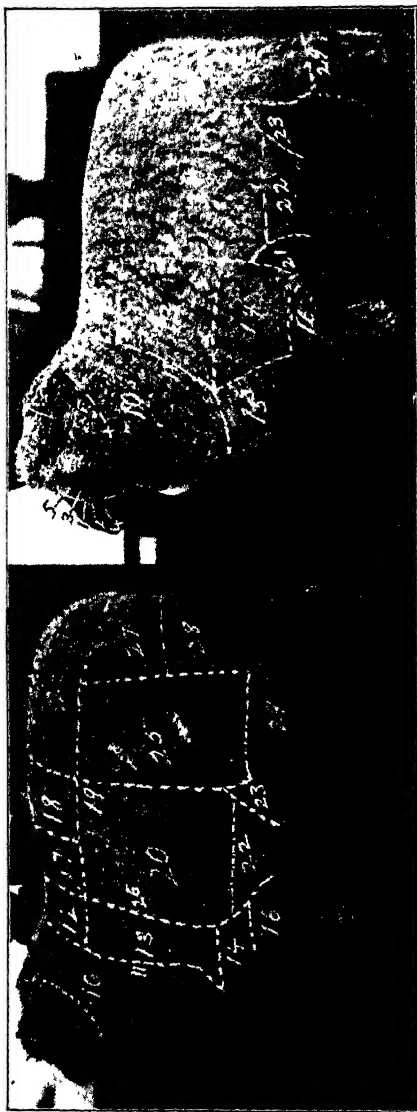
Three Generations of Inherited Production.

AYRSHIRE CATTLE—COW

Continued

Hind Quarters	11
Rump. Wide, level, long from hooks to pin bones, a reasonable pelvic arch allowed.....	3
Hooks. Wide apart and not projecting above back nor unduly overlaid with fat.....	2
Pin Bones. High, wide apart.....	1
Thighs. Thin, long and wide apart.....	2
Tail. Fine, long and set on level with back.....	1
Legs and Feet. Legs strong, short, straight, when viewed from behind and set well apart; shanks fine and smooth, joints firm, feet medium size, round, solid and deep.....	2
Udder. Long, wide, deep but not pendulous, nor fleshy; firmly attached to the body, extending well up be- hind and far forward; quarters even; sole nearly level and not indented between teats, udder veins well developed and plainly visible.....	22
Teats. Evenly placed, distance apart from side to side equal to half the breadth of udder, from back to front equal to one third the length; length $2\frac{1}{2}$ to $3\frac{1}{2}$ inches, thickness in keeping with length, hang- ing perpendicular and not tapering.....	8
Mammary Veins. Large, long, tortuous, branching and entering large orifices.....	5
Escutcheon. Distinctly defined, spreading over thighs and extending well upward.....	2
Color. Red of any shade, brown, or these with white; mahogany and white, or white; each color distinct- ly defined. (Brindle markings allowed but not de- sirable)	2
Covering	6
Skin. Medium thickness, mellow and elastic.....	3
Hair. Soft and fine.....	2
Secretions. Oily, of rich brown or yellow color... 1	
Style. Alert, vigorous, showing strong character; tem- perament inclined to nervousness but still docile... 4	
Weight. At maturity not less than one thousand pounds.. 4	
Total	100

JUDGING SHEEP.



POINTS OF SHEEP.

- | | | | |
|--------------|----------------------|-----------------|-----------------------------|
| 1. Muzzle. | 8. Eye. | 15. Brisket. | 22. Belly. |
| 2. Mouth. | 9. Ear. | 16. Shank. | 23. Flank. |
| 3. Nostril. | 10. Neck. | 17. Back. | 24. Rump. |
| 4. Lip. | 11. Shoulder vein. | 18. Loin. | 25. Leg of mutton or thigh. |
| 5. Nose. | 12. Top of shoulder. | 19. Hips. | 26. Crops. |
| 6. Face. | 13. Shoulder. | 20. Sides | 27. Dock or tail. |
| 7. Forehead. | 14. Chest. | 21. Fore flank. | 28. Twist. |
| | | | 29. Hind leg. |

CHAPTER III.

JUDGING SHEEP.

152. Method of Examining Sheep. In examining sheep it is advisable to adopt a definite course of procedure so that nothing may be overlooked and each motion made to disclose something in regard to the merit or demerit of the sheep. In the show ring that contains as many as ten sheep in a class it is easy to see that the judge must work quickly as well as accurately. And there is nothing that will contribute to both of these like examining each part of the sheep in regular order. The best course to follow is perhaps to begin at the head, pressing down the lower lip with the finger and thumb so that the teeth may be seen and the age estimated. Then with the hands under the jaw look carefully over the head, seeing that the eyes are all right, the head a good shape and no appearance of horns in those breeds that are hornless, while in those that possess these, note that they spring clear from the head. Then pass to the neck, feeling with the hands the fullness of it, and in addition observing the length and the way it swells to meet the shoulder at the shoulder vein. Pass down to the brisket, putting one hand on the floor of the chest and the other at the top of the shoulder and in this way form an idea as to the depth of the sheep through these parts. Next note the shoulder, observing how it is covered with flesh along the side and top and also taking the girth of the spring of the ribs with the sheep. From the top of the shoulder, using one hand, follow the line of the back to the end of the body. By carefully handling these parts the fleshiness of the sheep or the way the ribs are covered and the straightness

of the back are determined and at the same time the spring of the ribs is made apparent. The width of the loin should then be taken and also its covering and thickness. The width of the hips should next be observed, and turning to one side and using two hands the length from the hip to the end of the hind quarter should be made apparent between the two points. Then the width of the hind quarter and the manner in which it is carried back and the fullness should also be examined. Following the part towards the leg the development of the thigh on the outside requires examination, and then with the hand the twist should be firmly felt.

153. Deception Due to Trimming. In this way the sheep has been thoroughly examined as to form, but it is to be remembered that the hands should be thoroughly relied on to discover all defects of form, and unless the sheep is carefully handled the examiner is very likely to be deceived. The wool of all show sheep and fat stock of the medium wool classes, is always trimmed, and the trimmer possessing skill can give any desired form to sheep, providing the wool is long enough and the sheep approaches somewhat towards the form which is being imitated.

154. Estimating Age by the Teeth. The order of appearance of the nippers or incisors in sheep is a fairly reliable method of telling their age. The sheep has eight permanent incisors in the lower jaw, and these appear in regular order in supplanting the milk teeth. The milk teeth can always be told from the permanent incisors by the fact that they are narrower. The permanent incisors are broad and widened considerably towards the top. The first or central pair of incisors appear when the sheep is slightly over one year old. The next pair, that is, one on each side of the central pair, appear the following year, and that is when the sheep is two years old; the third pair

Illustrations of Proper Methods of Handling Sheep in Judging Them



Looking at the face and head and feeling the fullness of the neck.



With one hand on top and the other below estimate the depth of the chest.



Notice the heart girth by the distance between the hands.



With the hand perfectly flat note the levelness of the back, its firmness and covering.

Illustrations of Proper Methods of Handling Sheep in Judging Them—Continued



Taking the width of the loin; also note the thickness.



Noting the degree to which the width of body is carried to the end.



Feeling the development in the leg of mutton.

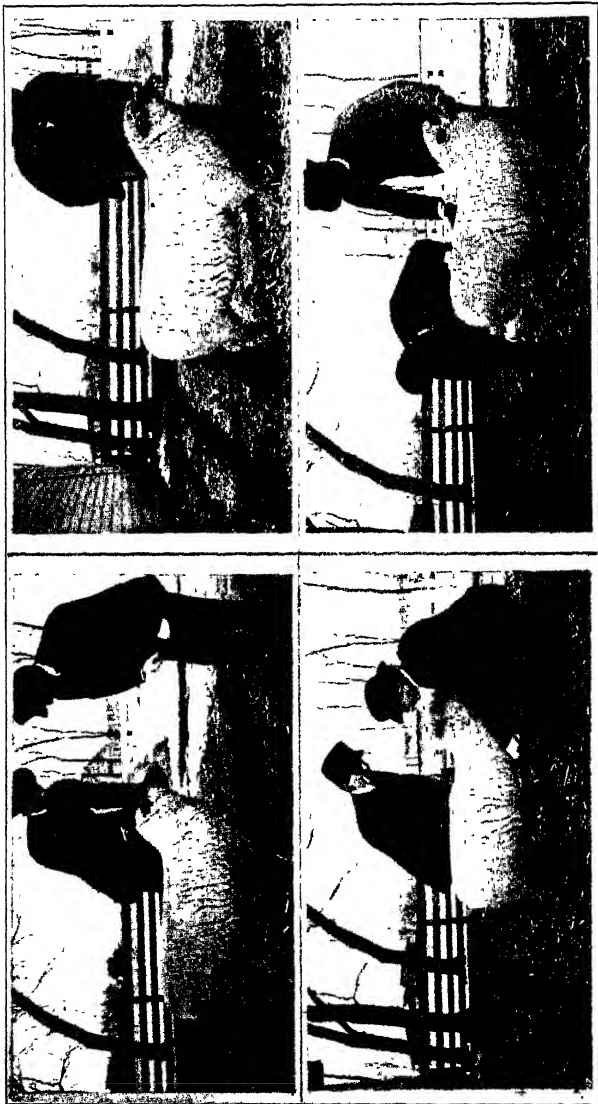
Illustrations of Proper Methods of Handling Sheep in Judging Them—Continued



Manner and place of opening fleece to see the finest quality of wool.



Illustration showing the proper method of holding the hand in examining sheep. It will be noticed that in this illustration those examining the sheep hold the fingers together in a sloping manner, in this way it is possible to feel the form of the sheep without disturbing or breaking the fleece. The very common method of sticking the fingers into the fleece makes holes in it which greatly annoy the shepherd.



Practices sometimes followed in exhibiting sheep to hide their natural defects. In the upper right hand corner the illustration shows manner in which a sheep may be held to conceal an undershot jaw. The upper one on the left hand shows methods sometimes used to cover a bare head which the judge would otherwise see were it not for the hand of the holder. The illustration in the lower right corner of the plate shows the method of the holder of the sheep when the judge attempts to feel the fullness of the leg of mutton. The holder presses his knee against the sheep's breast and with his free hand presses down on the back, thus causing the examiner to feel these parts of the sheep to advantage. The illustration in the left hand corner of the plate shows how the holder supports the back of the sheep being examined and also strengthens it where it may be naturally weak. The holder's knee is against the sheep's breast while his free hand presses against the floor at the chest or directly under the hand of the judge.

appear when the sheep is slightly over two years old, and the fourth pair when it is between four and five years old. This completes the number of incisors and a complete set always indicates that the sheep is between four and five years old. High feeding or forcing hastens the age indications, so that the variations are often unnoticeable, especially in show sheep or those imported from Great Britain.

I. JUDGING SHEEP FOR MUTTON AND WOOL.

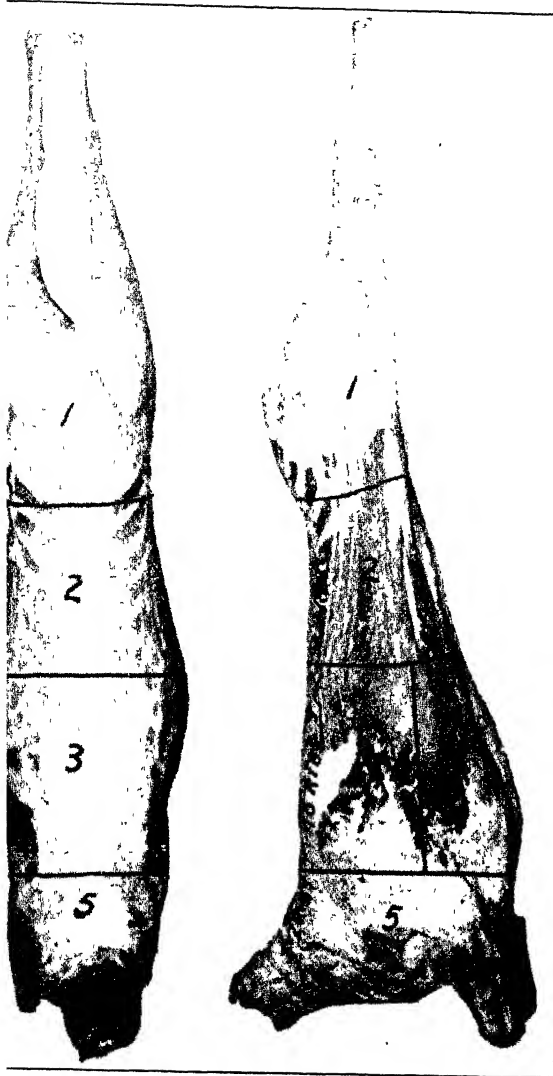
In judging fat sheep it is necessary to consider the needs of the feeder of this class of stock, the demands of the butcher for lambs and mutton, the desires of the consumer and the requirements of the manufacturer of wool. These requisites must be merged together to arrive at a correct view of the whole.

155. The Feeding Type That Gives the Best Gains. In considering the type of sheep which gives the best results in the feed lot, we have only to have in view the type that gives us the greatest vigor, insuring an active digestion and the most constitution, so that nothing may upset the sheep in the rapid progress desired. In this connection it will be well to report the results of an experiment made at the Wisconsin Experiment Station by the writer. Two lots of lambs were selected; the one bred by the station showing in fleece and form a high degree of merit for grade sheep. These lambs were bred from high grade ewes and the rams had been selected at high prices for some years to make the best blend with the ewes. The lambs were very uniform as to type and they showed what might be called an unusual degree of merit for ordinary feeding lambs. To compare with these, some lambs native to northern Wisconsin showing the type common to that territory were put upon similar rations. The representatives of both these kinds of lambs,

in addition to having the same kind of food, were kept under identically the same conditions, putting both lots of lambs in the fed lot at three cents a pound and taking them out at four cents at the end of the feeding period. The well bred lambs of good feeding type after paying for the feed that they ate, at current prices yielded a profit of \$1.13 per head; while those representative of the poor type being indiscriminately bred only yielded a profit of \$.60 per head. The lambs of the best type ate more food, but they made more than a corresponding gain, and the chief point should not be lost sight of, that the profit from each one of them was just twice as much as that from those being of inferior type.

156. The Feeding Type Bringing Most at Maturity.

In the selection of feeding lambs the feeder has to keep in view the fact that there is most demand for the lamb that when fat weighs about 80 pounds. Such a lamb has the quickest sale at the highest price per pound. This type is one that is not too heavy boned and large framed, but such as require only a medium amount of flesh to make the carcass smooth and plump at the weight indicated. It is the low set, thick type that possesses these qualities to the highest degree. To secure the greatest profit in feeding it is desirable to have the gain made as rapidly as possible. The younger the animal the cheaper the cost of gain, and it is that feature that makes early maturity such an important consideration in the different classes of stock. The market favors a lamb of the weight mentioned, because as a rule such usually dress better and the cuts sell better because lighter.



A.

B.

Reprinted from Illinois Bulletin 147

Location of cuts in a mutton carcass and their valuation in the Chicago market

A.		B	
1 and 2.	Saddle	1	Leg
3 and 5.	Rack.	2	Loin
1, 2 and 3	Long Saddle.	3	Short Rack.
2, 3, 4 and 5.	Body.	4	Breast
		5	Chuck.
		4 and 5	Stew

In the wholesale trade mutton saddles bring around 14 cents per pound; racks, 9½ cents; legs, 15 cents; loins, 12 cents; short racks (rib chops), 15 cents; stew, 7½ cents.



The three photos on the right hand show a sheep of a bad feeding type. Note narrowness of face, shallowness of chest, with length of leg in both front and side view, while the hind view shows thinness of leg of mutton. The three photos on the left show a good feeding type in breadth of face, depth and width of chest, spring of rib, squareness of form throughout and fullness of leg of mutton. The sheep used for these illustrations were selected from the lots experimented with at the Wisconsin station and referred to in paragraph 155.

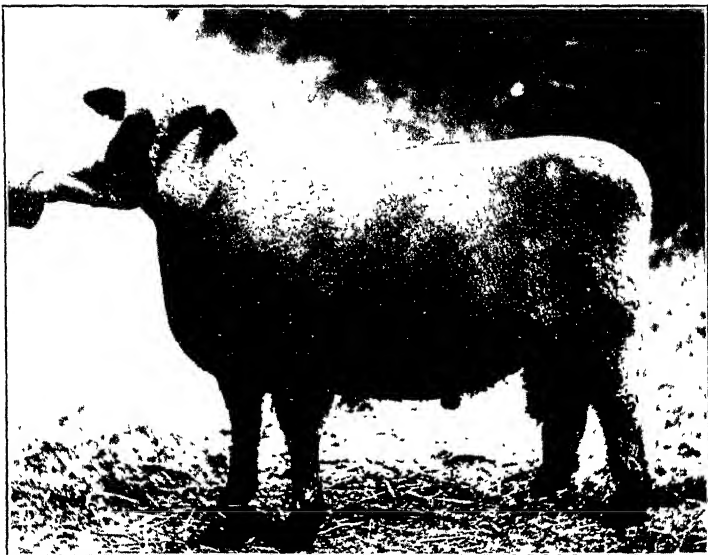
157. The Type Desired by the Butcher. If we were to consider only the things that have the most importance in the view of the butcher we would have a very queerly formed sheep presented to us. The butcher is very desirous of obtaining the greatest percentage of valuable cuts, consequently the different parts of a lamb from a butcher's point of view show a wide variation from the feeder's and breeder's ideal. In the lamb that is ideal from a butcher's standpoint, it would not be necessary to have any neck, chest, digestive apparatus or leg. As may be seen from the illustration herewith submitted, the neck has a value of only one cent per pound, the shoulder is two cents and the shanks the same. The rib running from the point of the shoulder to the loin has a value of nine cents per pound, and the same is true of the loin; while the leg of mutton has the highest value per pound, as that is quoted at ten cents. The breast and chest have the very low value of two cents per pound. It is very evident from these facts that the back, loin and the leg are the three divisions that are most prized in the lambs that would be ideal from the butcher's standpoint.

158. Quality. After the form of the sheep has been carefully examined the quality should be noticed. This means the cleanness of the bone, fineness of the skin and the nature of the hair which covers the face and legs. These are important features in either breeding or fat sheep. It is perhaps the most valuable from the butcher's standpoint, because the waste is less from a sheep of good quality than it is from one that is inferior. The range in the percentage of dressed weight in lambs will vary from 50 per cent to 60 per cent of their live weight, so that it will be understood that quality is an important factor from the butcher's standpoint, where the profit from the carcass is largely determined by the dressed weight returns.

159. The Importance of Condition. Not only should a lamb be well developed in the parts indicated to satisfy the butcher, but the flesh should be uniformly deep over the parts; this is a factor in giving a high percentage of dressed weight which adds greatly to the profit of the carcass. While it is very desirable that the lamb should weigh about 80 pounds, it is even more so that the condition should be equally satisfactory to produce the highest price. As indicating the progress of the lambs in the feed lot in this particular it would perhaps be advisable to follow them through their development.

When put in the feed lot under proper conditions, lambs will usually begin to show the influence of good feeding at the end of the third or fourth week. During this time they seem to be simply getting into good condition to put on flesh, though it appears that some fat is being deposited internally. Towards the end of that time many of the lambs may be noticed standing leisurely in the sun in a partially stretched posture. This pose in the lambs is a delight to the shepherd. The fattening process seems to extend from the internal regions, and is first in evidence at the tail. It then passes along the back over the shoulder and reaches the neck; from this line it seems to extend down the sides and over the breast in front. There are six main points at which its extension seems most in evidence—at the tail, middle of the back, the neck, the flank, the purse and the breast,

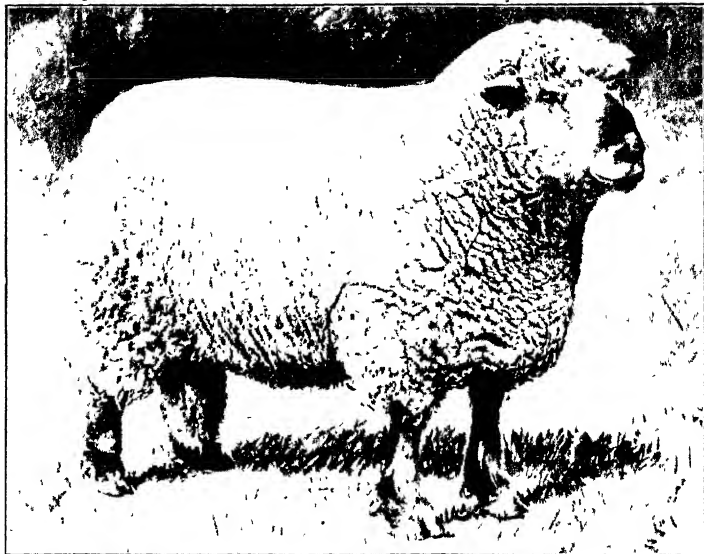
160. Judging Condition. Judges of condition handle these different points and seem to arrive at the same conclusions from continued practice in observing the development of any one of them, although a critical examination will reveal that sheep sometimes fatten unevenly and may be good in one or more of these points and comparatively deficient in others. By feeling the tail head some will form their opinion as to the degree to which the lamb



Hampshire Yearling Ram. Winner of first prize at English Royal Show in 1913. Photo by Parson.

DESCRIPTION OF THE HAMPSHIRE SHEEP.

THIS BREED, finding its name from its native district in England is strong framed with those features which denote constitution, strikingly shown. The head is strong and somewhat large with prominent nose and ear inclined to be thick and large, yet there should not be any undue coarseness in these parts. The neck should be strong and deep from head to shoulder, the chest very deep and wide. The back strong with width and proper covering. The hind quarter should be characterized by fullness both before and below. In general the frame is strong, lengthy and close to the ground with the other attributes which indicate vigor. The wool of the fleece is somewhat short, dense and strong in fiber. Ruggedness and weight of form are desirable yet these should be secured if possible without extreme coarseness of form or fleece. The early development of the lambs of this breed is a leading characteristic and should be recognized, consequently a heavy weight at an early age but not at the expense of quality and breed type is very desirable. See official scale of points, page 132.



Undeclared Oxford ram shown in 1911 by Geo. McKerrow & Son
Pewaukee, Wis.

DESCRIPTION OF THE OXFORD DOWN SHEEP.

THIS BREED originated in the county of Oxford, England, and the type was evolved by the use of the Cotswold and Hampshire. The origin of the type is shown somewhat in the modern representatives for the scale, substance and back which they possess reflect the qualities of the long wool line, while the dark face, fleece characteristics and quality of structure are attributable to the Down ancestry. The face and markings are either gray or brown. The head of the Oxford differs somewhat from the Shropshire in being longer and not so densely woolled past the eye, while the ear is slightly larger and longer. The form is square in general appearance, wider than in that of the other Down breeds and the hind quarter square on top and below carrying flesh close to the hocks. The fleece is heavy, moderately open and the fiber is long and strong. When mature they are one of the heaviest of the Down breeds, being large in size and strong in frame. See official scale of points, page 134.

is fat. Others are satisfied with feeling the back. Many after feeling the tail, grasp the neck and base their opinion on the fullness of that part. The flank and breast are often used for further assistance, and some butchers estimate condition by the fullness of the purse. At any of these points, more especially the back, the covering should be such in the prime lamb as to prevent feeling the sharp projection of backbone. In a lamb that is completely fattened there is a distinct trough or groove running from the tail to the shoulders and the covering of flesh should extend well down over the sides, without softness due to excessive fat or oily tissue. All lambs do not fatten as smoothly or as uniformly as herein indicated. In most lambs, however, the worst defect is bareness of the loin and lightness in the hind quarters. With these parts well covered and fully developed, a rather sharp shoulder and peaked brisket will be overlooked. Not only should the flesh be thick over the valuable cuts, but it should be firm. Very often it will be found that soft rough patches will be present about the head of the tail, owing to the depositing of too much soft flesh on the back, which may slip from there on the over ripe lamb and gather at the flank or along the sides in long soft rolls.

161. The Importance of Dressed Weight. In considering this subject still further from the butcher's point of view, there is the question of quality which materially affects the percentage of the dressed meat obtained. This in addition to being largely influenced by the condition of the sheep, is perhaps most influenced by the fineness of the bone, thickness of the pelt and other features, which all have a marked influence on the profit from the butcher's standpoint. In this connection to show how important it is to have the dressed weight yield a large per-

centage of valuable cuts, it will be interesting to quote some results obtained from an experiment at the Iowa Station under direction of Professor Curtiss. He found in a lot of ten pure bred Oxford lambs marketed by the Iowa Experiment Station, that the leg cuts constituted 31.87 per cent of the whole carcass by weight and sold for 42.63 per cent of the total value. The leg, rib and loin cuts together aggregated 73.74 per cent of the total weight and sold for 92 per cent of the total.

162. Consideration of the Consumer. The butcher and the consumer are very similar in their demands, but there are a few points that are of peculiar importance to the latter, and among these may be mentioned the character of the flesh. A clear distinction should be drawn between flesh and fat, or, as it may be otherwise stated, between muscle and lean meat and tallow. The ideal sheep from the consumer's standpoint is one that carries a large proportion of flesh or lean meat with but a limited quantity of fat. In live sheep this is indicated by a firm, even covering over the parts of the body. The flesh has a firm but springy touch and is smooth over all regions, especially thick where it has the highest value. The consumer asserts his preference for another feature and that is a marked desire for lamb in contrast to matured sheep, owing to the desirability of small cuts and the supposition that lamb is more tender than older sheep.

163. The Qualities of the Fleece. In estimating the worth of a sheep or judging it, not only is it fair to consider the demands of the feeder, the butcher and the consumer, but with these we must include the qualities desired by the wool manufacturer. Though the returns from the fleece are not very large, yet the sheep breeder must consider them so that the ultimate profit may be as great as possible. To arrive at a correct understanding

in regard to this, the examiner must follow the best method of examination and also know in detail the market requirements for wool.

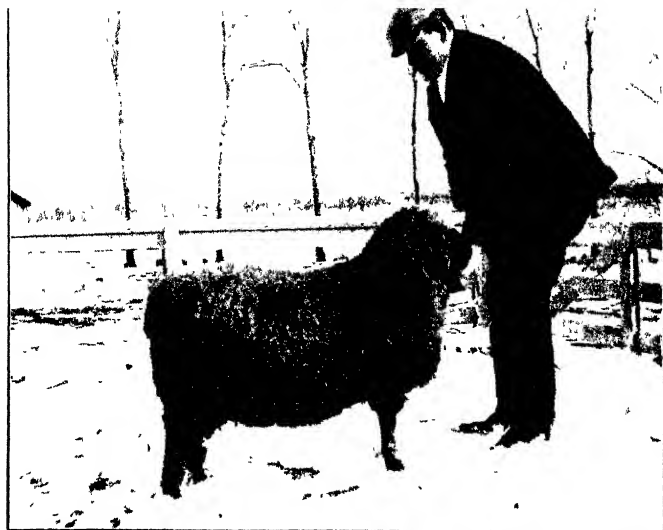
164. Examining the Fleece. In examining and valuing the fleece the chief points to consider are the quantity, quality and the condition. In grouping the qualities under these three divisions we can include the interests of those directly concerned on the various products coming from sheep, on the market. The best method of arriving at the nature of a fleece is to open it first just over the shoulder. It is in this region that the finest and the soundest wool of the fleece is found. By using the hands in a flat position instead of sticking the end of the fingers into the wool the fleece may be parted in a more satisfactory manner. After looking at the wool and skin in this region, the thigh should be the next place of examination, for here grows the poorest and coarsest wool of the whole fleece. Then the covering of the wool on the belly also demands notice, for very often sheep are quite poor in this region, making the wool light and indicating a lack of constitution. By examining the fleece in these three parts a fair estimate may be made of its qualities.

165. Quantity of Fleece. The chief factors which determine the quantity are the length, density and evenness of both of these over all parts.

166. Density. The density of the fleece means the closeness of the fibers. Technically it means the number of fibers that grow on a square inch. Density is not only of value to secure a heavy fleece, but from the breeder's point of view its chief importance lies in the fact that it is more protection to the sheep than a fleece that is open. Not only is a sheep with a loose open fleece more liable to contract a cold from exposure to rain or wind but it is also more apt to yield a dirty fleece, as the loose fleece catches the dirt and dust and pieces of hay and straw. From the shepherd's point of view the denseness of the

fleece is its leading feature, for it will be found that those animals with dense close fleeces are less subject to such diseases as catarrh, running at the nose or scouring. When a sheep experiences a chill, it at once affects the circulation and sends the blood to the internal organs, and inflammation or scouring results. This is why sheep that have open fleeces are more subject to such diseases than those that have dense fleeces. Wool is one of the best non-conductors of heat that we have and when it is on a sheep in the form of a dense fleece, it gives them the greatest possible protection from exposure. Furthermore, if the fleece is not dense, it is almost impossible for the fiber to be sound—that is, free from weak spots. When a sheep has been badly chilled or has become sick in any way so as to cause the pores of the skin to contract, a break or shrinkage occurs in the fiber at that point. The wool on a sheep grows from a small sac in the skin and it passes away from the skin through a small opening which may be easily contracted or expanded, according to different influences. The influences are various, and for that reason it is important that the sheep be covered with a fleece that is so dense as not to be affected much by external conditions.

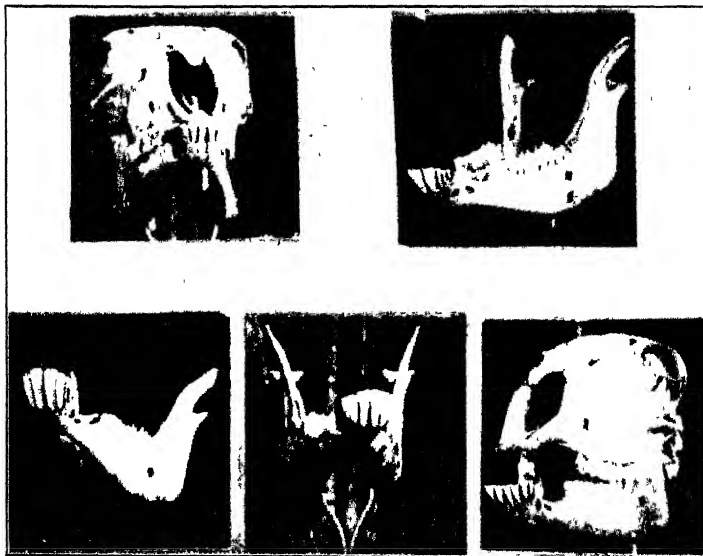
167. Length of Staple. The length of the staple is an important feature, both from a commercial point of view and from the shepherd's standpoint. Wools are generally known as short-stapled or the clothing or carding wools, which are used for woolen clothes, or long-stapled or combing wools, which are used for worsted clothes. The combing wools include the Lincoln, Leicester, Cotswold, Oxford, Romney Marsh and Black Face or Highland. The Downs (Southdown, Hampshire, Suffolk, Shropshire)—and the Cheviot and the Merinos usually produce clothing wool though some individuals and some flocks produce wool of ample length for combing. The manufacturer of woolens desires a short stapled wool, for such a wool has better felting qualities and usually more serra-



Two photographs of the same sheep—the upper before trimming and the lower after trimming. This illustrates the necessity of careful handling of sheep to determine the form.



Five Southdown wethers that were first prize pen of lambs at the International Live Stock Exposition in 1910.



Photographs of sheep teeth, showing changes that occur in the order of appearance of the incisors. The photo on the upper left hand shows a lamb's mouth with all temporary incisors. The upper right hand photograph shows mouth of a sheep about one year old, with the first pair of permanent incisors and the temporary incisors back of them. The photo in the lower left hand corner shows the mouth of a sheep about two years old, with two pairs of permanent incisors appearing. The photograph in the center below shows the mouth of a three year old sheep, with three pairs of permanent incisors. The lower right hand illustration is a photograph of a sheep's mouth when four and a half to five years old. The incisors are all permanent, worn down some and more sloping than the others.

tions or spirals than the long wools. In manufacturing woolen into yarns the fibers are transversely disposed to the axis or length of the thread. In yarns of this nature this feature is termed "pile." The points projecting from the center should be numerous, so that in felting the fabric unites and also when the cloth comes to be finished it will appear on top like short fur (Royal Agricultural Society Transactions, Vol. II, Second Series). On the other hand, in worsted goods classes, combing, clothing, and delaine, the object is to stretch the fibers and lay them parallel with each other, and this produces a yarn, even, strong, and with a smooth surface. In this process of manufacture, it is easy to see that the length and strength of a fiber includes its most valuable characteristics.

168. Quality of Fleece. As in most other instances it is rare to find quality and quantity associated. As a general rule it will be found that the short woolled sheep have the finest quality of wool. In judging of the quality, it should be noted again that the finest wool occurs just over the heart and on the belly, while the coarsest grows on the thigh.

169. Softness. By pressing the fleece with the hand the softness of it can readily be approximated. This feature is opposed to harshness. The softness of the fleece not only depends greatly on the management, but also on the nature of the food and the soil. In reference to the foods, those that are rich in sulphur have been observed to have the most influence on the softness of the wool. It is interesting to know that in one hundred pounds of wool there is at least five pounds of sulphur, and it seems that the abundance of this in the food, has an effect on this feature of softness in the fleece. It is well known that soil has a strong influence on the properties of wool, especially in regard to its softness. Clay soils are considered to produce the softest wool, of the best lustre and next to these ranks sandy soils, and lastly, those of the

nature of limestone. Chalky soils have been noted for the deterioration they produce in the softness of the wool. Harshness of the fleece is generally due to the absence of yolk which has resulted from ill health on the part of the sheep or from exposure. Considering the nature of the fiber of wool, it is easy to understand how anything, such as ill health or exposure which effects the secretion of yolk is certain to make the wool harsh. A fiber of wool is covered with a series of scales which overlap in a similar manner to the shingles on a roof. When the secretion of yolk is abundant, these scales fit it closely to the fiber, but when the secretion of yolk is stopped from any injurious cause, the scales stand out from the fiber very similar to warped shingles on a roof. The result of this is that the fibers lock and when you feel the fleece that has fibers of this nature they seem to grate each other very similarly to file shavings. The wool is harsh and dry and when pressed it gives that grating feeling which is also characteristic of an unhealthy fleece. It is this that generally produces what is known as a catted fleece.

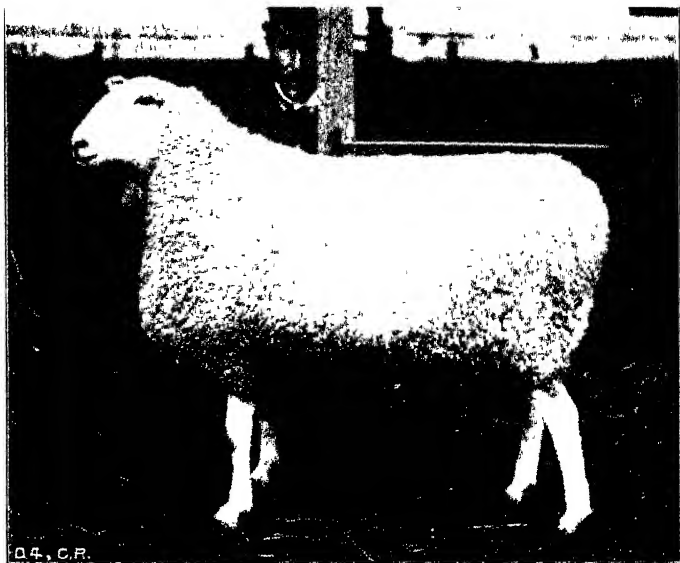
170. Crimp. All wool is more or less crimped, possessing what are sometimes called spirals. The most important point in regard to the crimp is that it should be regular and the folds should not be thrown on each other. Regularity in the crimp indicates that the fiber is sound from end to end, but if in some places the crimp is short and close, and in others long and wavy, it usually indicates that where this difference occurs, there is an unsound spot in the fiber. It shows that the growth has been irregular and there is a close relation between the fineness of the fiber and the nature of the crimp. When the crimp is fine and close almost invariably the fiber will be found to be of fine quality. In all coarse wool it should be noted that crimp is open and wavy. In opening a fleece and looking at it, the crimp should always be noted, for from it an estimate may be made, both as to the soundness and fineness of it.



A group of Cotswold rams shown in 1911 by F. W. Harding, Waukesha, Wis. These rams show the desirable qualities of their breed in long forelocks, upstanding and full fronts, long, level backs and heavy fleeces.

DESCRIPTION OF THE COTSWOLD SHEEP.

THIS BREED which is native to the Cotswold hills in Gloucestershire, England, is one of very ancient origin and is one of those breeds which show a high order of style and finish and uniformity, due to the long continued breeding for a type. The form is remarkably square, upstanding and stylish, the latter being contributed to in no small degree by a beautiful tuft of wool growing from the forehead and falling luxuriantly over the face. The head is somewhat long in the face and may be white or slightly mixed with gray. The forelock is full and long, the ear small, the neck of sufficient length to uphold the head with style. The characteristic form of the body is long, level and wide with a strong back. The hind quarter comes up square and should have sufficient fullness below. The fleece owing to its length is usually somewhat open but it possesses a long, strong fiber that yields heavy. The fleece most desired, while wavy, parts into locks showing a clear pink skin free from dark spots. The popularity of the breed lies chiefly in their large yield of wool and mutton, and these features should be leading characteristics yet they should also be associated with quality in all the essentials. See official scale of points, page 135.



Border Leicester ram, FAVORITE, winner first prize at Highland and Agricultural Society, Dumfries, Scotland, 1895. Bred by and property of Andrew Smith, Longniddry, Haddington, Scotland.

DESCRIPTION OF THE LEICESTER SHEEP.

THIS BREED which was one of the first to be established originated in Leicestershire, England. The first improver, Robert Bakewell, 1726-1795, sought chiefly to increase the early maturity of this breed and lessen the size of the bone and increase the weight of flesh. The characteristics secured at that early time are maintained in the modern representative. The face is bare and pure white, body square, fore quarters especially full with hind quarters peculiarly rounded on top. There are usually many evidences of quality as seen in the fine bone and the further fact that the fiber of the fleece is usually remarkably fine considering its length. The marked aptitude of the representatives of this breed to fatten results in remarkable backs but frequently the same aptitude produces a soft and uneven covering. The Border Leicester, originating from an infusion of Cheviot blood, is generally stronger in bone and more vigorous than the English type. The wool of the fleece is lustrous, five or six inches long and very soft though frequently too open and sometimes absent on the belly.

171. Soundness. The soundness of the fiber is of much importance in the process of manufacturing woolens. The fleece of unsound fibers will bring four or five cents less than one that is strong throughout. To test the soundness of a fiber, in addition to knowing it by the character of the crimp, a small lock of wool is taken between the fingers and stretched evenly and gently until the unsoundness or the strength becomes apparent. The wool may break at the bottom, having what is called "weak bottoms," or it may have "weak middles" or "weak tops," according to the location of the unsoundness. Since the crimp is more open at a weak place it is desirable to have it even throughout the length of the fiber.

172. Condition. The condition of the fleece refers more to its purity, lustre, brightness and the quantity and character of the yolk. The condition of a fleece results mostly from correct breeding and proper management.

173. Purity. Purity refers to the freedom of the fleece from dead fibers and foreign matter. In fleeces that are grown on sheep that are exposed to conditions unfavorable to thrift, there is a natural tendency for the fleece to revert to its original state; that is, fibers of hair begin to appear in it and these take the place of the wool. Very often in fleeces grown by sheep that have been exposed there will be found a great many dead fibers which are technically spoken of as "kemp." These dead fibers are very injurious to the fleece from the commercial standpoint, because they do not absorb dyes, and in any cloth that is made from such wool these dead fibers will retain the white and hard appearance that they had in the fleece.

174. Lustre. This refers to the glistening appearance of the fiber when held to the light. This is independent of the amount of yolk, and it is also quite distinct from the brightness of the fiber. Although yolk in a fleece may add to the lustre of the fiber, yet all lustrous wools

have this characteristic independent of the amount of yolk that is present. The chief advantage from a commercial standpoint that attaches itself to lustrous wools is that they more readily take delicate dyes. Wools in the market are known as lustrous or dull, according to the appearance of the fiber. The lustrous fiber has the appearance of having been varnished, while a dull one does not show the least tendency to glisten when held in the light.

175. Brightness. Brightness is quite distinct from lustre, as it refers altogether to the color of the wool. In the market wools are said to be bright or dark as they vary in this characteristic. The bright wool is one that has a clear white color, while the dark wool is one that has become discolored from the soil on which the sheep has ranged, or some similar source. Brightness is always characteristic of domestic wool and discoloration is a feature of all territory wools.

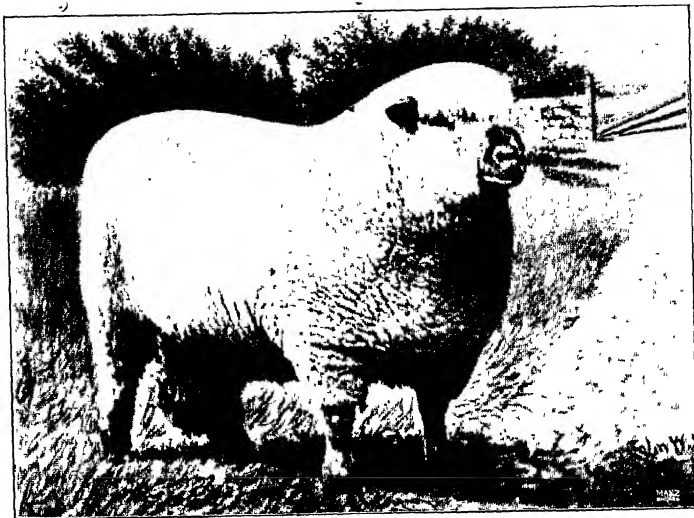
176. Yolk. This is the grease or oil that is naturally secreted by the skin. As before indicated the yolk in the fleece is an indication of the healthiness of the sheep. The yolk is secreted in the skin, but it passes down through the fiber and finds an outlet at the end of the fiber. If you will notice sheep on certain days when the weather is close and the sheep are likely sweating, the yolk seems to accumulate on the end of the fiber, and if you were to run your hand over the fleece at that time you would find it became quite oily. The yolk apparently comes out at the end of the fibers and works back into the fleece. In some flocks the quantity of yolk has been increased and encouraged by selection in breeding, so that heavy fleeces might be obtained. The ordinary fleece in which yolk is abundant in proper quantity will lose nearly one-third through washing it in hot water. This grease is of no value to the manufacturer and it represents a direct loss to him when it is in the fleece in very large quantities. The feeding and the management un-



A champion Southdown ram shown in 1911 by Charles Leet & Son, Mantua, Ohio.

DESCRIPTION OF THE SOUTHDOWN SHEEP.

THIS BREED, which is one of the oldest and purest, originated on the Downs of Sussex in England and they represent a uniformity of type for mutton purposes which may be accepted as a model of mutton form. The type shown by this breed is very symmetrical, compact and close to the ground and there is a marked refinement in every feature; the general structure being of fine quality while every part strongly reflects the same characteristic. The head is moderate in size, short and clearly defined in its lineaments. The forehead should be covered with wool and the cheeks also but this usually does not join forward of the eye. There is a complete absence of horns, with small pointed ears, the face is some shade of brown or gray tint and the same markings should prevail on the legs. The neck is very short and straight, the breast broad and full, the back is straight, well covered and tightly knit, while the loin is wide, straight and smooth. The general form of the body shows much depth and width with a trimness characteristic of every region. The hips while markedly wide are not prominent, the hind quarter fills out square and the twist and thigh are low and full. The fleece is characterized more by its fineness and density rather than the weight of the wool which it yields as it is generally medium in length and comparatively free from yolk. A marked uniformity in the quality of the wool should be in evidence; that over the shoulder and that which covers the thigh and other parts being very even in quality. The best types of this breed may be accepted as a model form for the block. See official scale of points, page 130.



Shropshire ram, RINGLEADER, a frequent prize winner and stock ram at the head of the Altamont flock, owned by Dr. G. Howard Davidson, Millbrook, N. Y

DESCRIPTION OF THE SHROPSHIRE SHEEP.

THIS BREED having its home in the Downs of England is very symmetrical and stylish in form. The head should show refinement in every feature with moderate length. A characteristic attribute is for it to be closely covered with wool, the cap between the ears being dense, running to the bridge of the nose and joining that which covers the cheek and lower part of the head. The ears should be far apart, pointed and moderate in thickness and preferably covered to the tip with fine curly wool. There should not be the least evidence of horns as the places where these would appear should be covered with wool. The neck should be nicely attached and full and of sufficient length to carry the head with peculiar style. The body to possess this characteristic smoothness and symmetry must be somewhat circular and round ribbed. The back should be straight, strong and knit so that the handling of this part shows it to be smooth and evenly covered. The loin must be wide and hips not prominent and the quarters lengthy and deep, the width from the loin and hips should be carried out to the tail head and the fullness characteristic of this part should be maintained on the outside of the thigh and on the inside as well, making the twist not only deep but plump with flesh. The fleece should be strong and fine in fiber with all the density possible. From the bridge of the nose to the fetlock as well as along the belly, a dense covering of wool is desirable. In opening the fleece the fibers, which are generally about three inches long, should part readily, show clear white in strong contrast to the pink skin. About the ears or top of the head there should be no patches of black fiber nor should these appear distributed anywhere in the fleece. The characteristic markings for the face and legs are a rich dark brown in color. The best type of this breed shows an unusual combination of quality and quantity of both wool and mutton. See official scale of points, page 131.

doubtedly influence the amount of yolk. Feeding sheep foods that are rich in oils seems to further the secretion of grease and especially in feeding with such rations as are generally given to fattening sheep, the quantity of yolk seems to increase. In fattening lambs at the Wisconsin Station it was found that the lambs which received grain from birth invariably sheared heavier fleeces than those that had grain only during the latter three months of fattening. By washing samples from the fleece of these sheep it was determined that the increased weight of the fleece was almost altogether due to the increased amount of yolk which the grain-fed lambs secreted. The presence of yolk in proper quantities is of chief importance, because the fleece becomes soft through it, and is made more compact, thereby keeping bright and clean in condition. Furthermore, it is a safe index of the thriftiness in the sheep, though if present in excessive quantities and accumulated in flakes it indicates undue pampering or unthriftiness due to overfeeding.

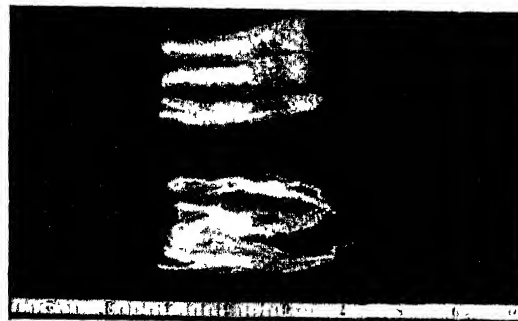
177. Domestic Wool. There are four main kinds of wool, some of which are divided into classes and grades as explained later. These are what is known as domestic wool, territory wool, blanket wool and carpet wool. Domestic wools are clean and bright. Wool of this kind comes from fleeces that are grown under what might be termed domesticated conditions, that is—sheep are given shelter, fed well and otherwise have good management, as is given on farms in contrast to ranches of former days. This results in a clean, bright wool which the market classifies as domestic wool.

178. Territory Wool. In contrast to this is the territory wool. This wool is called territory wool simply because it is dirty or it is discolored. It is wool that comes from sheep managed and cared for in a way very similar to that which is common in the range states. The sheep have run out the year round; the fleeces carry a large amount of sand and dirt which raises the

rate of shrinkage when the wool is scoured by the manufacturer. The various types of soils have peculiar effects as a result of contact with the wool.

179. Blanket Wool. The poorest kinds of wool that go to the market are known as carpet wool and blanket wool. The worst feature connected with this kind of wool is the presence of kemp or the dead fibers previously mentioned. On account of these not freely absorbing the dyes, this wool has to be manufactured into carpets and blankets. When the nature of the fleece of the original sheep is understood so that the improvement that has been made through breeding for many years becomes apparent, it can easily be seen that where sheep are neglected the tendency is for their fleece to revert to the original condition. In this condition the fleece was made up of an external covering of hairs and beneath it an undergrowth of very finely fibered wool. Domestication by man has completely removed the hair and gives us a fine fleece of wool which exists on well bred sheep today. Neglect on the part of the breeder will surely result in the sheep reverting to the kind of fleece that it at one time possessed.

180. Classification of Wool. The wools according to their length and strength are divided into three classes, clothing, combing and delaine. Clothing is short, being about two inches, or it is longer and weak. If the fiber of a fleece is four inches long, it would, on its length, be classified as combing wool, but if that fiber has a weak spot in it where it readily breaks it passes from the combing class into the clothing class and drops two or more cents on the pound in price. Then there is the delaine class, which is a fine wool from two and one-half to three or more inches long in fiber. The other class is a combing, which is a strong wool over two and three-quarter inches long. This classification, it will be seen, depends altogether on the length and strength of the wool. The delaine wools have extra fineness combined



The market classification of wool. The sample shown on the extreme left of this plate is long enough to be a Delaine, but it was un-sound at the place where the fiber shows an irregular crimp and on that account classed as clothing. The two samples shown in the center plate are fine and medium Delaines. The fiber in these instances is sound, fine and from two to three inches long. The three samples in the plate to the right are combing wool; they range from three inches upwards in length and are also sound. The shorter sample is medium combing, the center sample is coarse combing, and the longest sample is the coarsest kind, known as braid combing.



A prize winning Lincoln ram.

DESCRIPTION OF THE LINCOLN SHEEP.

THIS BREED which originated in Lincolnshire, England, vies with the Cotswold for the position of being considered the largest of the long woolec breeds. The form is very squarely built and when mature the representatives of this breed are very heavy. The face is pure white, somewhat long and surmounted by a tuft of wool. The body is exceedingly full in its development and marked specially by a very wide, level and deep fleshec back, while the hind quarters are usually well developed, being very square in form. The wool is long in fiber, very strong, frequently inclined to be coarse because of this, but it is particularly lustrous and parts easily in flakes. In yield of mutton and wool this breed occupies a foremost position

with sufficient length for combing. They are used for making the finest kinds of cloth.

The combing wool must in the first place be strong to stand the process of combing, and with that the greatest length is desired. In further reference to the quality of the wool, in examining a fleece, it should be noticed that the length and the density are even over all parts. Considering first the length, the fleece should be examined at the brisket, on top of the back, along the side on the thigh and on the belly. As a rule sheep fitted for show are trimmed in such a way that the wool in front of the brisket is much longer than that on top of the back, and the same may be said of that on the sides. In an untrimmed sheep, on which the wool has grown naturally, it will be found that there is a natural variation in the length of the fiber on different parts of the body. The wool on the brisket will invariably be found to be longer than that on the top or in most other parts. The density of the fleece may be determined by the feel of it under the hand. If the fleece feels firm and it seems to be compact, it is dense and will weigh heavier.

181. Commercial Grades. According to the fineness of fiber, or, in other words, the size of it, fleeces classed as either combing or clothing are assigned to one of the following grades which are named in order, beginning with the finest, XX, fine, half-blood, three-eighths, quarter-blood and braid or low quarter. This grading does not apply to the delaine class which includes only wools equal or superior in fineness to half-blood. There might be a three-eighths or quarter-blood clothing, but practically all wools of that coarseness have length enough to place them in the combing class. While the above grading is a standard one, varying sets of terms are applied to wools from different parts of the country.

SCALE OF POINTS FOR FINE WOOLED SHEEP.

GENERAL APPEARANCE:

Form, level, deep, stylish, round rather than square..	8
Quality, clean, fine bone; silky hair; fine skin.....	6

Perfect
Score**HEAD AND NECK:**

Muzzle, fine: broad wrinkly nose; pure white.....	1
Eyes, large, clear, placid.....	1
Face, wrinkly, covered with soft, velvety coat.....	1
Forehead, broad, full	1
Ears, soft, thick, velvety.....	1
Neck, short, muscular, well set on shoulders.....	1

FORE QUARTERS:

Shoulder, strong, being deep and broad.....	4
Brisket, projecting forward, breast wide.	1
Legs, straight, short, wide apart; shank smooth and fine	2

BODY:

Chest, deep, full, indicating constitution.....	10
Back, level, long; round ribbed.....	4
Loin, wide, level.....	4
Flank, low, making underline straight.....	2

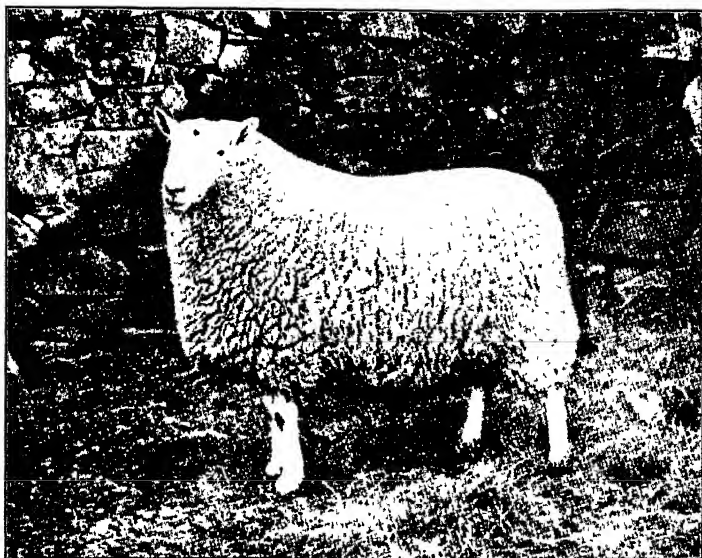
HIND QUARTERS:

Hips, far apart, level, smooth.....	2
Rump, long, level, wide.....	4
Legs, straight, short, strong; shank smooth, fine.....	2

WOOL:

Quantity, long, dense, even covering, especially over crown, cheek, armpit, hind legs and belly.....	15
Quality, fine fibre, crimp close, regular; even quality including tops of folds.....	15
Condition, bright, lustrous, sound, pure, soft, even dis- tribution of yolk, with even surface to fleece.....	15

Total.....100



Cheviot ram, SANDY WALKER, winner of first prize at Edinburgh, Morpeth, and the H. and A. S. Show, Dumfries, 1895. Bred by and property of John Elliott, Hindhope, Jedburgh, Scotland.

DESCRIPTION OF THE CHEVIOT SHEEP.

THIS BREED, a native of the Cheviot mountains and the most common sheep of Scotch borders, has been known on the hills of Scotland for more than 200 years. To thrive under the conditions of their nativity they must naturally possess unusual activity with strong constitutions. The modern type exemplifies this fact as it is that of a sheep blocky in body and deep, with short legs. The face is bare of wool from the ears forward without any appearance of horns and pure white, as on all other regions of the body excepting the immediate vicinity of the nostrils and the hoofs which should be black. Being hardy, active and prolific, they have a pertness in look, and activity in movement which is thoroughly characteristic of the breed. The manner of the sheep is characterized by alertness added to further by a keen face, bright eye and active, fine ears. The chest is deep with the floor of it close to the ground, the girth full, the back rather short but strong, with a deep rib, the hind quarter is low set but well developed from the mutton standpoint. The fleece should be dense and fine in texture. The breeders are particularly careful that the quality of the fleece should be even throughout and free from kemp or dead hairs and especially fill the hand well. As constitution is eminently desirable in these sheep the evidences of this should be strikingly shown in type and temperament. See official scale of points, page 138.



A Dorset ram shown in 1911 by Nash Bros, Tipton, Ind.

DESCRIPTION OF THE DORSET SHEEP.

ORIGINALLY a mountain breed of Dorsetshire and Sommersetshire of the south of England, this breed has been modified considerably in type during late years and the modern representative now shows a form that is long, round-bodied and yet compactly built.

Standard of excellence and scale of points of the Dorset sheep, adopted by the Continental Dorset Association.—Head neat, face white, nostrils large, well covered on crown and around jaws with wool, 5; horns, small and gracefully curving forward, rather close to jaws, 5; eyes, prominent, bright, 2; ears, moderately large, covered with short white hair, 2; neck, symmetrical, strongly set on shoulders, gradually tapering to junction of head, 5; shoulders, broad and full, joining neck forward, and chine backward with no depression at either point (important), 15; brisket, wide and well forward, chest full and deep, 8; fore flank, quite full, showing no depression behind shoulders, 10; back and loin, flat and straight, from which ribs should spring with a fine circular arch, 10; quarters, wide and full with mutton extending down to hock, 6; belly, straight on under line, 5; fleece, medium grade, of even quality, and presenting a smooth surface, well covered on belly and legs, 12; general conformation of the mutton type, body moderately lengthy, short legs placed squarely under body, appearance attractive, skin pink colored, 15.

SCALE OF POINTS FOR MUTTON SHEEP—FOR WETHER.

GENERAL APPEARANCE:

	Perfect Score
Weight, score according to age.....	8
Form, long, level, deep, broad, low set, stylish.....	10
Quality, clean bone, silky hair, fine skin, light in offal yielding large percentage of meat.....	10
Condition, deep even covering of firm flesh especially in region of valuable cuts. Points indicating condi- tion or ripeness are thick dock, back thickly cov- ered with flesh, thick neck, full purse, full low flank, plump breast	10

HEAD AND NECK:

Muzzle, fine, mouth large, lips thin, nostrils large....	1
Eyes, large, clear, placid.....	1
Face, short, clean cut features.....	1
Forehead, broad, full	1
Ears, fine, erect.....	1
Neck, thick, short, throat free from folds.....	1

FORE QUARTERS:

Shoulder Vein, full.....	1
Shoulder, covered with flesh, compact on top, smooth	1
Brisket, projecting forward, breast wide.....	1
Legs, straight, short, wide apart, strong; fore arm full, shank smooth and fine.....	1

BODY:

Chest, wide, deep, full, indicating constitution.....	8
Back, broad, straight, long, wide, thickly fleshed, ribs arched	10
Loin, thick, broad, long.....	10

HIND QUARTERS:

Hips, far apart, level, smooth.....	2
Rump, long, level, wide to tail head.....	3
Thighs, full, deep, wide.....	3
Twist, plump, deep.....	3
Legs, straight, short, strong; shank smooth, fine....	1

WOOL:

Quantity, long, dense, even.....	4
Quality, fine, pure; crimp close, regular, even.....	4
Condition, bright, sound, clean, soft, light.....	4

Total.....100

II. JUDGING SHEEP FOR BREEDING PURPOSES.

In judging pure bred sheep in the breeding classes, the subject of breed type should receive careful consideration. While it has a bearing on the judging of all classes of pure bred stock, yet it is of double importance in the pure bred classes of sheep.

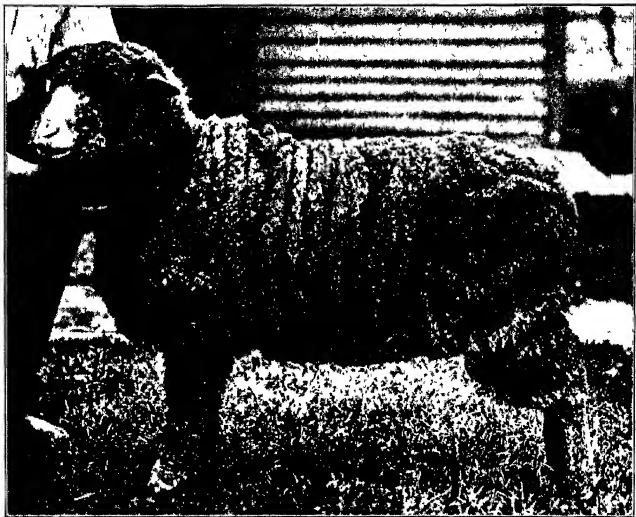
182. Formation of Types. The type that has become characteristic of each breed has arisen from a variety of causes. In all instances the breeder's skill in selecting and mating has been a controlling factor, but other influences have assisted more or less. In some instances, the function of the animal or the work it is called upon to do has had a strong influence. This is evident in the instance of the running horse, the trotting horse and the dairy cow; where the form or the type has developed from the function. In other instances the environment has aided man in the work of selection and this is notably true of sheep. The adaptability of sheep for different altitudes of land enables us to divide them into lowland breeds, upland or down breeds, and mountain breeds. The lowland breeds are large, square and strongly framed, and heavy producers of wool and mutton; the down breeds are smaller, but rounder and more compact with fleece, frame and mutton of better quality. The mountain breeds must have more vigor and agility than those previously mentioned to earn subsistence under rougher conditions, so that the possession of a rugged constitution, and active disposition with strong limbs and muscles are of more importance than the other features that are characteristic of other types. Man seeks to fix the type considered characteristic of the breeds by elaborating a scale of points representing the features desired in the types and towards the production of these ideal types all the breeders bend their energies.



Rambouillet ram lamb imported by George Harding & Sons, Waukesha, Wis. A frequent first prize winner in the state fair circuit of 1899. Owned by J. F. Jensen, Mount Pleasant, Utah.

DESCRIPTION OF THE RAMBOUILLET SHEEP.

THIS is the largest breed of fine woolled sheep and they have been established in France from the original Merino type by generous feeding and careful selection, having in view a large form with tendency towards mutton making and fleece that is fine in fiber, very long and markedly dense. The aim has been to produce a fine woolled sheep with mutton qualities. Size of form has been secured and where this possesses sufficient quality and smoothness it represents a high order of combination of wool and mutton producing tendencies. The head is covered with a dense growth of wool extending over nose, cheek and around the eye. The ewe should be polled and the rams possessed of horns. The ears are somewhat short, silky in feeling, due, largely to pliability and a fine growth of hair. The neck is somewhat thick but comparatively free from wrinkles and the chest very deep. The body should continue its depth and have a smooth layer of flesh. The hind quarters should not droop but be characterized by levelness with a fold at the tail head. The legs are short, strong and straight. The feature of most decided merit connected with this breed is the character of the fleece which yields heavily because of its unusual density and the combination of length and fineness which the fiber shows. The fleece should show bright and lustrous with a uniformly fine crimp extending from tip to base. The yolk should be free and not clotted at any part of the fleece. These characteristics should be noticeable in all regions showing it to be true and even in quality throughout. The fleece in addition to extending well over the face should run down on the legs as far as possible and make a complete covering of the belly.



A prize winning Merino (Class A) by D K Bell.
Rochester, N. Y.

DESCRIPTION OF THE DELAINE MERINO SHEEP.

THIS FAMILY of American Merinos has been established by increasing the size smoothening the form, lengthening the fiber and adding somewhat to the mutton properties of the ancestral stock. In some families the polled feature is an additional characteristic. In those that are horned these should in turning keep clear of the face. The form in general has been enlarged and smoothened by the development of a tendency to take on flesh. The fleece being comparatively free of wrinkles has also contributed to the smoothness of form which is characteristic of the Delaine. As in the other type quality of bone, skin and hair and the addition of quality of fleece with fineness in every particular should be mainly characteristic. See official scale of points, page 139.

DESCRIPTION OF THE AMERICAN MERINO SHEEP.

THIS BREED with its fascinating history starting in Syria, passing into Greece, from there to Italy, then to Spain on to France and from thence to England and later to Australia and America has an historical record for inherent constitution which has made them strong in type and very decided in their characteristics. Size and mutton form are not characteristic of the breed but quality in every requirement is a striking attribute. The face is white and the head closely capped with wool extending down on the bridge of the nose and completely surrounding the eyes. The ear is small, pointed and covered with wool and a soft growth of hair. In the ram the horn should spring strong and completely clear of the face, the neck is light and so is the shoulder and a marked feature is the depth of the chest, the floor coming down well between the fore legs which are short and strong. The body is short, the rib deep, the loin and hind quarter strong. The fleece under careful examination should be very dense with even surface. The fiber should be long, fine, sound and when the fleece is opened it should part readily from end to end showing an even and free distribution of yolk. To the finger and thumb softness of the wool should be apparent, while to the eye it should show a lustre and brightness throughout. Where the wrinkles occur they should not have any coarse fibers on the tops of the folds and the yolk should not be clotted in the creases or any portion of the fleece. American Merinos are now shown in three classes, A, B, and C. The ewe in the above illustration shows the A type. The C type is free from wrinkles and has longer wool. The B type is intermediate between the other two.

183. Value of Breed Type. The type of the breed having been decided upon by all the breeders, it should be the aim of the judge to recognize it, for aside from an acknowledgment of the wishes of the breeders it is a point of direct value to do so. When a breed has been bred uniformly to a type for many years the type has become so fixed that it is uniformly transmitted. Two of the most powerful factors aiding the fixing of the type of a breed are the breeders seeking to produce the animal of ideal type as represented by the scale of points and the judges conforming to it in the show ring. The result is influential in regard to breeding, as it assists in making the breed prepotent or able to transmit its characteristics with a greater degree of certainty. Another feature associated with the fixing of the breed type by the assistance of the breeder and the judge is the fact that it then becomes possible to select breeding stock from among the pure breeds with special reference to their adaptability for a definite environment. Knowing the environment that has assisted in producing a type of any breed of sheep and knowing that a certain type has become the fixed property of that breed, it is possible to make an intelligent choice of a breed for any environment. It is this adaptability for different environments that has given us over twenty-five different breeds of sheep, and as it is the possession of these peculiarities which unite in what is called breed type that gives each a place. Consequently it is important that the breeder should try to retain the type and in this secure the co-operation of the judge.

184. The Ram. Aside from the breed type which is outlined in the scales of points that are given elsewhere, the ram in type should show masculinity in many features. In those breeds that have horns, the latter should spring strong from the head and turn free from the face.

In all rams the face should be broad between the eyes, somewhat short with a Roman nose. The crest or scrag should be thick and rising and the neck full. A point deserving emphasis is the depth of the chest. The body should sink deep between the fore legs and the ribs back of the shoulder should be deep and round, making the girth large and the brisket prominent and wide—two features that are indicative of a strong constitution. A live fleece, that is, one that is springy and not dead to the touch, and especially a dense thick covering of belly wool is also indicative of vigor or constitution. For the same reason in those breeds that are wooled about the head, the more complete and dense this covering is, the better it is liked. The legs of the ram should be straight and strong and short. The movement of the ram should be bold and active. This is often influenced by the condition. A ram should never be so heavy in flesh as to be useless for service, as is too often the case in the show ring. The flesh should be even and firm, and not gathered in masses or rolls at any part of the body. It is very apt to gather at the fore flank, leaving the back bare or raw. Excessive condition is likely to make the ram unwieldy in action or result in broken down pasterns which usually render a ram useless for breeding purposes.

185. The Ewe. The ewe should be rather long in the face with fine features. The neck should be slender and without any of the thickness noticeable in the ram. The body should be deep, round ribbed and specially long so as to provide room for the growing lamb. The type of the good milking ewe verges strongly towards that which is typical of the good dairy cow. The ewe that milks well, and, consequently, rears early maturing lambs tends towards the wedge shape, deep in the chest, large bodied and wide across the loins and the hips. The condition of the ewe should not be such as to impair her breeding

qualities. Excessive fatness as a rule is in this way injurious. The flesh should be evenly distributed and not gathered in bunches about the tail head, and it should be firm and not flabby.

186. Judging Lambs and Flocks. In judging lambs the main consideration is to make due allowance for the difference in age among the contestants. As to the possibilities of future development, the judge can only have his own experience and observation to guide him. It may be said, however, that it will be found as a rule that the short, smooth and thick lamb, which shows best at five or six months old or under, will rarely develop into a sheep of desirable size when mature; while the lamb that is more growthy, yet possessing a well knit frame, showing some length and also quality, will develop both size and smoothness. Stress should be laid on the strength, straightness and firmness of the back and the depth of the body. In judging flocks the rams that head them should receive chief consideration, though this does not mean that the uniformity and the type of the ewes should be overlooked. An exceptionally good ram either in the show ring or in use as a sire will as a rule obliterate a multitude of small faults in the remainder of the flock. In reference to the ages of the individuals in the flock, the nearer they are to being yearlings the higher they should be appraised. Younger than this calls for suppositions relating to their development, and when they pass beyond two years, their worth in the flock has lost the value that results from the production of one year, though it cannot be said that the merit of the sheep has decreased in any other respect.

III. OFFICIAL STANDARDS OF EXCELLENCE FOR SHEEP.

SOUTHDOWN SHEEP.

STANDARD OF EXCELLENCE—AMERICAN SOUTHDOWN

RECORD, VOL I, 1884.

	Counts
Head —Medium in size and hornless, fine, carried well up, forehead or face well covered with wool, especially between the ears and on the cheeks, and in the ewe slightly dished	5
Lips and under jaw fine and thin.....	1
Ears —Rather small, tolerably wide apart, covered with fine hair and carried with a lively back and forth movement	2
Eyes —Full and bright.....	3
Face —A uniform tint of brown, or gray, or mouse color..	3
Neck —Short, fine at the head, but nicely tapering, and broad and straight on top at the shoulders.....	4
Shoulders —Broad and full, smoothly joining the neck with the back	5
Breast —Wide, deep and projecting well forward, the forelegs standing well apart.....	5
Back and loin broad and straight from shoulders to rump.	7
Ribs —Well arched, extending far backward, the last projecting more than the others.....	6
Rump —Broad, square and full, with tail well set up....	6
Hips —Wide, with little space between them and the last ribs	6
Thighs —Full and well let down in twist, the legs standing well apart	6
Limbs —Short and fine in bone, and in color to agree with face	3
Fore Legs —Well woolled and carrying mutton to the knees, but free from meat below.....	2
Hind Legs —Well filled with mutton and woolled to the hocks, neat and clean below.....	2
Belly —Straight and well covered with wool, the flank extending so as to form a line parallel with the back or top line	5
Fleece —Compact, the whole body well covered with moderately long and close wool, white in color, carrying some yolk	12
Form —Throughout smooth and symmetrical, with no coarseness in any part.....	9
General Appearance —Spirited and attractive, with a determined look, a proud and firm step, indicating constitutional vigor and thorough breeding.....	8
Total	100

SHROPSHIRE SHEEP.

POINTS OF EXCELLENCE FOR PURE BREED SHROPSHIRE SHEEP
RECORDED OR ELIGIBLE TO REGISTRY IN THE AMERICAN
SHROPSHIRE REGISTRY ASSOCIATION RECORD.

Counts

1. **Type and General Appearance**..... 30

An alert, attractive, and stylish appearance, showing at a glance the true characteristics of the Shropshire.
2. **Form and Constitution**..... 35

Head. To impress at once the Shropshire characteristics.

Heads of Rams. To be masculine, as indicated by a broad nostril; short; broad between ears and eyes.

Neck of Rams. Short and muscular, fitting into shoulders in graceful outlines.

Heads of Ewes. To be feminine in appearance, medium in length, but not delicate.

Neck of Ewes. Not so strong as in the ram. In all cases head and face nicely covered with wool; ears, short and erect; eyes, bright; color of face, brown to a clear dark (not sooty black).

Body. Well proportioned, with shoulders so placed as to fit in evenly to a deep wide brisket. A full heart girth; broad level back; ribs well sprung, with straight underline; loins thick fleshed; fore and hind flank deep; a low-coupled twist, and full leg of mutton.

Legs. Brown to clear dark color (not sooty black); well set apart; short and straight, with strong upright pasterns.

Size. When fully matured and in proper breeding condition, rams should weigh not less than 175 to 250 pounds and ewes not less than 140 to 180 pounds.
3. **Fleshing** 25

While the body should be well formed, with the full outline pleasing to the eye, yet it is the quality and quantity of flesh, not fat, which gives value to the carcass. Therefore the parts furnishing the high-priced cuts should be fully developed.

The back, loins and legs should be so fleshed as to show a large percentage of flesh compared with the other parts of the body; at the same time symmetry must prevail throughout.

Strong bone in legs conformable with size of body usually goes with a large proportion of lean meat to fat in the finished carcass.
4. **Fleece and Skin**..... 10

Fleece of good length, elastic to the touch, medium fine and slightly crimped, free from black fiber and hairiness. Ram's scrotum to be well covered with wool.

Rams should shear 8 to 15 pounds of wool and ewes 7 to 11.

Skin to be a bright cherry or clear color and comparatively free from dark spots.

Objections—Long, narrow head, with long ears and neck; long legs; black wool on head to any noticeable extent; failure of wool to meet closely at the junction of face-wool and on cheeks; white spots on face and legs; crooked spine; light flanks, with long, weak pasterns; spotted skin; narrow chest, showing lack of constitution.

Disqualification for Registry—Such lack of type as to render it doubtful to a breeder what the breed is; horns or stubs, not scurs. Heads quite bare of wool.

HAMPSHIRE DOWN.

STANDARD OF EXCELLENCE ADOPTED BY AMERICAN
HAMPSHIRE DOWN SHEEP BREEDERS
ASSOCIATION, VOL. I, 1890.

Head—Moderately large, but not coarse; well covered with wool on forehead and cheeks.

Nostrils—Wide.

Color—Head and Legs—Dark brown or black.

Eyes—Prominent and lustrous.

Ears—Moderately long and thin and dark brown or black color.

Legs—Well under outside of body, straight with good size of bone, black.

Neck—A regular taper from shoulders to head, without any hollow in front of shoulders, set high up on body.

Shoulders—Sloping full, and not higher than the line of back and neck.

Chest—Deep and full in the heart place, with breast prominent and full.

Back—Straight with full spring of rib.

Loin—Wide and straight, without depression in front of hips.

Quarters—Long from hips to rump, without sloping, and deep in thigh. Broad in hips and rump, with full hams. Inside of thighs full.

	SCALE OF POINTS	Counts
Head —Size and shape, 5; ears and eyes, 3; color, 5; legs and feet, 2.....		15
Neck, Shoulders and Breast —Neck, 5; shoulders, 10; chest and breast, 15.....		30
Body —Back and loin, 15; rib, 5.....		20
Quarters —Length, 10; width, 10; twist, 5.....		25
Wool —Forehead and cheeks, 2; belly, well covered, 3; quality, 5.....		10
Total		100

SUFFOLK SHEEP.

SCALE OF POINTS. SUFFOLK SHEEP SOCIETY FLOCK
BOOK, VOL. VII, 1893. ENGLAND.

	Counts
Head —Hornless; face black and long, and muzzle moderately fine, especially in ewes. (A small quantity of clean white wool on the forehead not objected to.) Ears a medium length, black, and fine texture. Eyes bright and full.....	25
Neck —Moderate length and well set. (In rams stronger, with a good crest).....	5
Shoulder —Broad and oblique.....	5
Chest —Deep and wide.....	5
Back and Loin —Long, level, and well covered with meat and muscle; tail broad and well set up. The ribs long and well sprung, with a full flank.....	20
Legs and Feet —Straight and black, with fine and flat bone, Woolled to knees and hocks, clean below. Fore legs well filled with mutton.....	26
Belly; also Scrotum of Rams —Well covered with wool....	5
Fleece —Moderately short; close, fine fiber, without tendency to matt or felt together, and well defined, i. e., not shading off into dark wool or hair.....	10
Skin —Fine, soft, and pink color.....	5
Total	100

OXFORD DOWN SHEEP.

SCALE OF POINTS ADOPTED BY AMERICAN OXFORD DOWN SHEEP BREEDERS ASSOCIATION. IN FOUR DIVISIONS.

Breed type	30
Constitution	25
Mutton form and quality.....	30
Wool	15

SUB-DIVISION—BREED TYPE OF ANIMALS.

Form of a good general appearance, made by a well balanced conformation, free from coarseness in any part, and showing good style both at rest and in motion..	15
Head of moderate length and width between the ears and between the eyes, and well covered with wool over poll and down to the eyes Color of face an even dark gray or brown, either with or without gray spots on tip of nose	6
When fully matured and in good condition rams should weigh 250 to 350 pounds; ewes, 180 to 275 pounds..	5
Ears medium size, not too thick and of an even brown or dark gray color	2
Legs short, strong in bone, flat and of even dark gray or brown color, placed squarely under the body and well apart	2

CONSTITUTION.

Large around the heart and wide and full in the chest....	10
The movement must be bold and vigorous.....	5
Eyes bold, prominent and bright.....	4
Skin bright pink in color.....	3
Neck strong and muscular in rams and well set on in both sexes	3

MUTTON FORM AND QUALITY.

Wide and straight on top of shoulders, back, loin and rump, from base of neck to tail.....	15
Full shoulders and thighs, well meated both inside and outside	5
Flanks well filled and strong so as to make the lower lines of the body as straight as possible, and side lines straight or rather full.....	4
The whole carcass evenly covered with good, well marbled meat	6

WOOL.

Fleece of moderate length, close and of even quality, covering the whole carcass well, and free from black patches upon the body, neck or head.....	15
---	----

COTSWOLD SHEEP.

STANDARD OF EXCELLENCE AND SCALE OF POINTS ADOPTED
BY AMERICAN COTSWOLD ASSOCIATION,
VOL. V, 1892—EWES.

	Counts
Head —Moderately fine, broad between the eyes and nostrils, but without a short, thick appearance, and well covered on crown with long lustrous wool.....	8
Face —Either white or slightly mixed with gray, or white dappled with brown.....	4
Nostrils —Wide and expanded. Nose dark.....	1
Eyes —Prominent, but mild looking.....	2
Ears —Broad, long, moderately thin and covered with short hair	4
Collar —Full from breast and shoulders, tapering gradually all the way to where the neck and head join—neck should be fine and graceful, and free from coarse and loose skin	5
Shoulders —Broad and full, and, at the same time, joined so gradually to the collar forward and chine backwards, as not to leave the least hollow in either place	8
Fore Legs —The mutton on the arm, or fore thigh, should come quite to the knee. Leg upright with heavy bone, —being clear from superfluous skin, with wool to fetlock and may be mixed with gray.....	4
Breast —Broad and well forward, keeping the legs wide apart. Girth and chest full and deep.....	10
Fore Flank —Quite full, not showing hollow behind the shoulder	4
Back and Loin —Broad, flat and straight, from which the ribs must spring, with a fine circular arch.....	12
Belly —Straight on underline.....	5
Quarters —Long and full, with mutton quite down to the hock	8
Hock —Should stand neither in nor out.....	2
Twist —Or junction inside of thighs deep, wide and full, which with a broad breast, will keep the legs open and upright	5
Fleece —The whole body should be covered with long, lustrous wool	18
Total	100

FOR RAMS.

	Counts
Head —Not too fine, moderately small, and broad between the eyes and nostrils, but without a short, thick appearance, and in young animals well covered on crown with long, lustrous wool.	8
Face —Either white or slightly mixed with gray, or white dappled with brown.	4
Nostrils —Wide and expanded. Nose dark.	1
Eyes —Prominent, but mild looking.	2
Ears —Broad, long, moderately thin, and covered with short hair.	4
Collar —Full from breast and shoulders, tapering gradually all the way to where the neck and head join. The neck should be short, thick and strong, indicating constitutional vigor, and free from coarse and loose skin. .	6
Shoulders —Broad and full, and at the same time joined gradually to the collar forward, and chine backward as not to leave the least hollow in either place.	8
Fore Legs —The mutton on the arm or fore thigh should come quite to the knee. Leg upright with heavy bone —being clear from superfluous skin, with wool to fetlock, and may be mixed with gray.	4
Breast —Broad and well forward, keeping the legs wide apart. Girth or chest, full and deep.	10
Fore Flank —Quite full, not showing hollow behind the shoulder.	5
Back and Loin —Broad, flat and straight, from which the ribs must spring with a fine circular arch.	12
Belly —Straight on underline.	3
Quarters —Long and full, with mutton quite down to the hock.	8
Hock —Should stand neither in nor out.	2
Twist —Or junction inside thighs, deep, wide and full which with a broad breast will keep the legs open and upright.	5
Fleece —The whole body should be covered with long lustrous wool.	18
Total	100



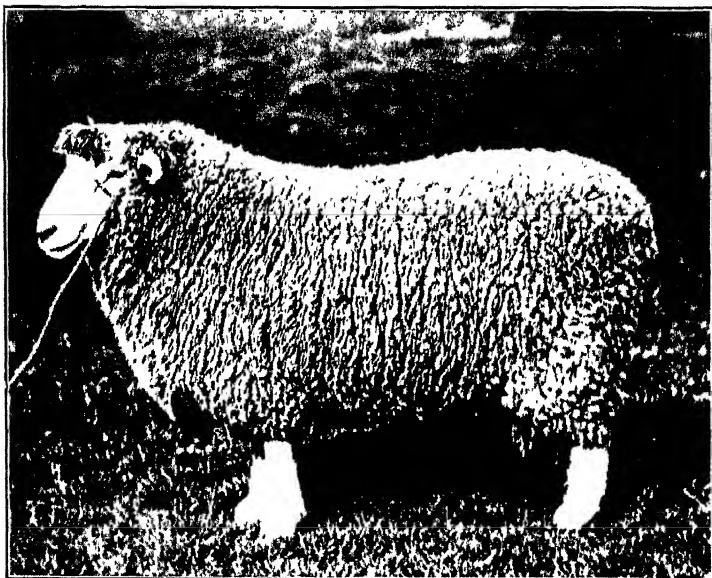
Photograph showing serious objections in a ram. The hind leg is too straight and the pasterns broken down.



Flock of Dorset ewes, reproduced from Live Stock Journal, showing uniformity and type desired in a foundation flock. Address of owner not given.



A Cheviot ram and ewe shown in 1911 by G. W. Parnell, Wingate, Ind.



Romney Marsh Ram.

WENSLEYDALE SHEEP.**SCALE OF POINTS FOR WENSLEYDALE RAMS.**

	Counts
Head —Face dark; ears dark and well set on; head broad and flat between ears; muzzle strong in rams; a tuft of wool on forehead, eyes bright and full; head gaily carried	15
Neck —Moderate length, strong, and well set on to the shoulders.	10
Shoulder —Broad and oblique	5
Chest —Deep and wide.....	10
Wool —Bright luster; curled all over body; all alike in staple	20
Back and Loins —Ribs well sprung and deep; loins broad and covered with meat; tail broad; flank full.....	25
Legs and Feet —Straight and a little fine wool below the hock; fore legs well set apart; hind legs well filled with mutton	15
Total	100

DORSET HORN SHEEP.**SCALE OF POINTS AS ADOPTED BY THE CONTINENTAL DORSET CLUB.**

Head —Neat, face white, nostrils large, well covered on crown and under jaws with wool.....	5
Horns —Small and gracefully curving forward rather close to jaw	5
Eyes —Prominent and bright.....	2
Ears —Medium size covered with short white hair.....	2
Neck —Short, symmetrical, strongly set on shoulders, gradually tapering to junction of head.....	5
Shoulders —Broad and full, joining neck forward and chine backward with no depression at either point (important)	15
Brisket —Wide and full, forward, chest full and deep....	8
Fore flank —Quite full, showing little depression behind shoulder	8
Back and Loin —Wide and straight, from which ribs should spring with a fine, circular arch.....	10
Quarters —Wide and full, with mutton extending down to hocks	10
Belly —Straight on under line.....	3
Fleece —Medium grade, of even quality presenting a smooth surface and extending over belly and well down on legs	12
General Conformation —Of the mutton type, body, moderately long; short, stout legs, placed squarely under body; skin pink; appearance attractive.....	15
Total	100

CHEVIOT SHEEP.

SCALE OF POINTS AS ADOPTED BY THE AMERICAN
CHEVIOT SHEEP SOCIETY.

General Conformation and Quality —Deep and full breast and large through chest; back wide and straight, with well-sprung, deep ribs; legs well placed and leg of mutton full and thick; body well fleshed, skin pink, with no blue or dark coloring; fleece compact and medium fine; bone strong and fine; general appearance graceful, symmetrical, active.....	Counts 20
Size —In good flesh when fully matured a 24-months-old ram should weigh not less than 225 pounds and a ewe not less than 150 pounds.....	10
Head —Should be medium short and broad, with ample breadth between the eyes; ears should be of medium length and usually erect when at repose; head covered with clear white hairs, extending from nostrils to back of poll; ridge of head from between eyes to nostrils straight or slightly arched with females and more strongly arched or Roman with rams; color of tip of nose black	15
Body —Well proportioned, having notable depth, with thickness on top and at flanks. Loins should be very broad and thick; shoulders should set well back and be smoothly covered, and crops be full and well arched. The rump should be long, broad, and level. 20	20
Legs —should be short, well set apart, and be covered with clean, white hair, with no wool below hocks and knees. The hind legs should be flat and deep below hocks. Pasterns should be strong and not show weakness, supporting the body well.....	10
Feet —Symmetrical, squarely placed when in repose, and hoofs black in color.....	5
Fleece —Should cover the body completely to behind the poll and ears and down to knees and hocks. Under part of the body should be well covered. In mature animals should be not less than 3 inches long for annual growth and be compact and of medium wool class. Rams should shear at least 12 pounds and ewes 8, when in mature form, to be desirable representatives of the breed.....	20

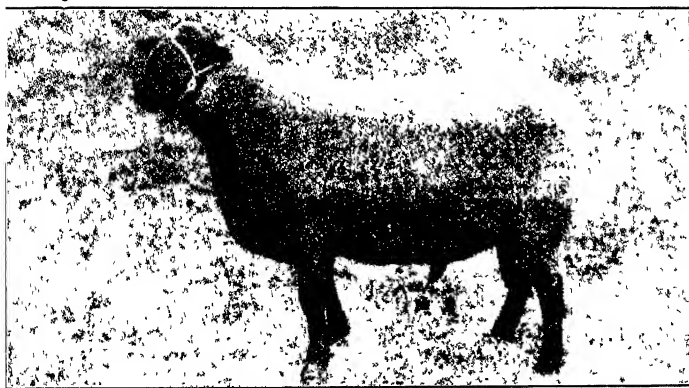
OBJECTIONS.

Scurs on the head, black spots on the head, flesh-colored or spotted skin about the nostrils, hair about the thighs or kemp on the body, reddish or sandy hair on head or legs, lack of wool on under part of body.

Disqualifications: All male lambs shall be ineligible to registration if having scurs or horns exceeding 1 inch in length.



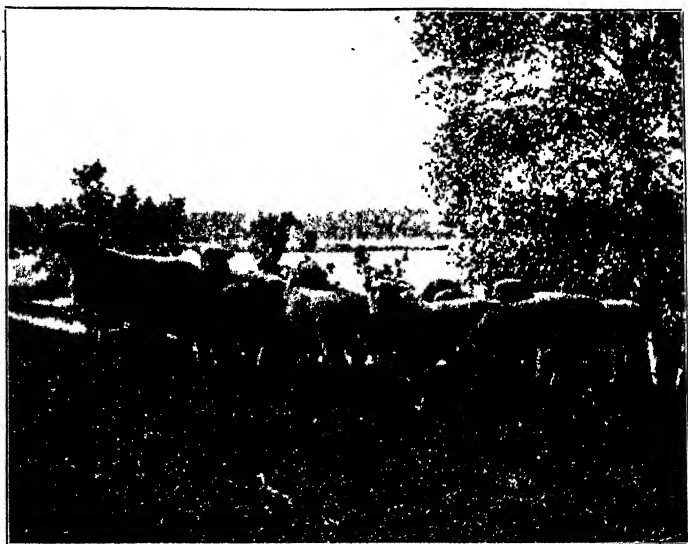
A group of Leicester ewes, prizewinners at the Highland Agricultural Society Show of Scotland.



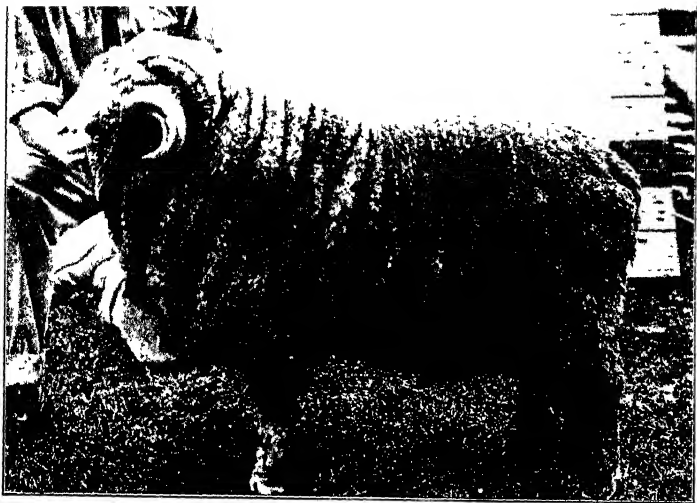
Suffolk ram, a first prize winner at the Royal Agricultural Society Show. England.



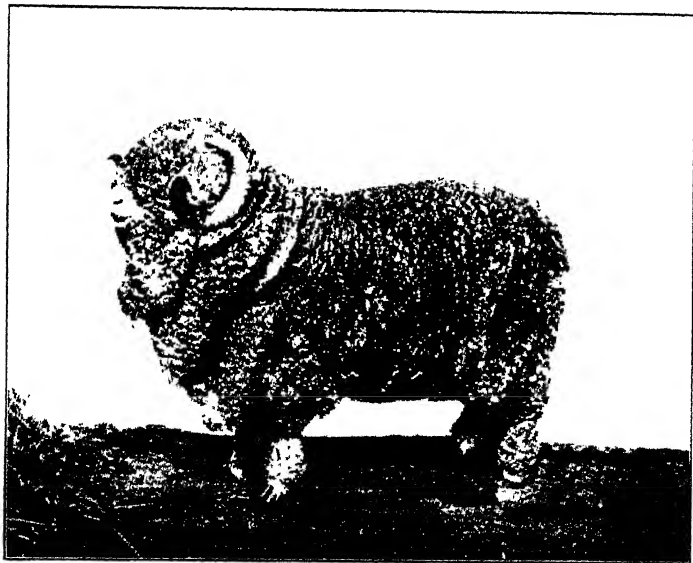
Prize Dorset ewe and lamb, winners at International Exposition, Chicago, 1900. Owned by J. E. Wing, Mechanicsburg, Ohio



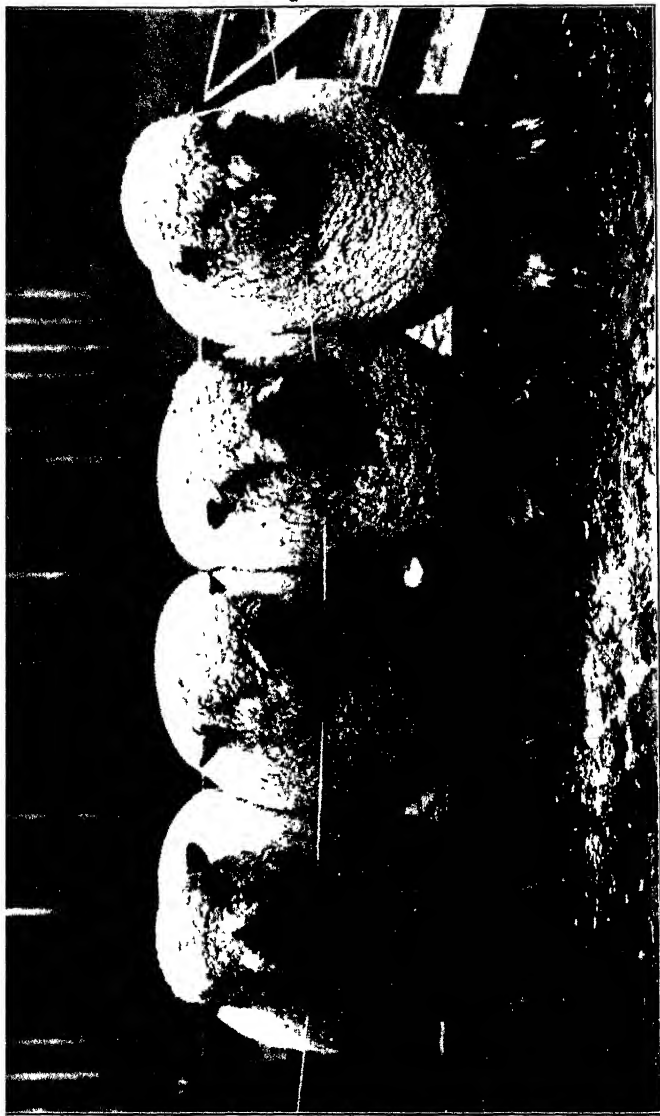
Imported Shopshire yearling ewes from the flock of Craig & Stevenson, Rice Lake, Wisconsin.



Class A Merino ram, DON ALFONSO, champion at New York State Fair, 1909. Bred and shown by D. K. Bell, Rochester, N. Y.



From photograph in the "Australian Pastoralists' Review." Merino ram PRESIDENT, bred by Hon. James Gibson; sold at Sydney, Australia, for \$8,000, July, 1896.



Shropshire group winning first as the get of one sire at the International Live Stock Exposition in 1911 Bred and shown by Henry L Wardwell, Springfield Centre, N. Y.

DELAINE SPANISH MERINO SHEEP.

SCALE OF POINTS ADOPTED BY THE STANDARD DELAINE
SPANISH MERINO REGISTER.

	Points
Pure Merino Blood —Which must be established by certificate	10
Constitution —Indicated by a deep chest, long rib well arched, giving heart and lung room, with great digestive capacity	20
Fleece —XX and delaine wool. This includes the quantity and quality as shown by weight of fleece, the length and strength of staple, crimp, fineness and trueness of fiber	10
Density of Fleece	3
Evenness of Surface	3
Evenness of Crimp	3
Length of Fiber	2
Free Flowing Oil —Of the best quality and the right quantity to protect the sheep and preserve the fleece.....	9
Head —Medium size. Ewes showing a feminine appearance; rams, a masculine, with properly turned horns	4
Eyes —Bright, prominent and well set apart, with a thick, soft eye lid	3
Nose —Short, broad, with well expanded nostrils, skin thick and covered with thick, furry coating, joining the wool one inch below the eye.....	4
Ears —Medium size, set well apart, thickly coated.....	2
Neck —Short on top, deep and strongly attached to shoulders, tapering to head; rams with a fold across the breast, and deep neck.....	4
Fleece —Covering over the entire body, head and legs, skin thick and spongy.....	4
Legs —Short, strong and well apart.....	2
Feet —Neatly shaped, thin hoof, well set under the leg...	4
Quarters —Deep and well rounded; back, broad, straight and strongly coupled to quarters.....	10
Weight —Ewes at maturity, 100 pounds and above; rams, 150 and above.....	8
General Appearance —Good carriage, bold and vigorous style, symmetrical form	5
Total	100

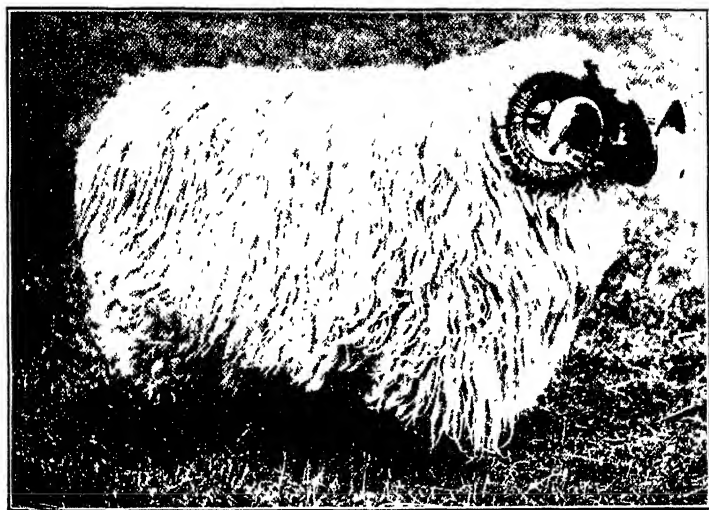
Any sheep scaling below 60 per cent in any point can not be recorded.

BLACK FACED HIGHLAND SHEEP.

POINTS OF COLOR AND EXCELLENCE ADOPTED BY THE AMERICAN
BLACKFACED SHEEP ASSOCIATION.

All sheep shall be black in the face. No sheep with a white or brownish face shall be admitted. Points of rams considered of high merit—shall have the following points—and ewes to follow as near as possible.

	Counts
Rams shall have thick and medium short muzzles.....	2
Brown nostrils	2
Face to be full from top of crown down to nostrils.....	2
Large prominent eyes	2
Horns coming out straight above the ears and not bending backwards towards the neck.....	10
Face must be broad above the eyes and not hollowed be- low the eyes	5
Shoulder must be broad, and back straight from shoulder to rump	12
Ribs must be well arched.....	8
Legs must be well set apart.....	8
Chest expanding out and forward and ham bending slightly backward while in motion.....	11
Movement must be quick and active.....	10
Fleece must be of a dense thick quality, free from kemp, and not fine and soft, and coming down to within about two inches of the ground, when full fleece.....	20
At exhibitions sheep must be turned up to ascertain bone quality which must be thick, and breast and belly well covered	8
Total	100



Black Faced Mountain Ram.



Photo by Schrelber.

Imported Shropshire ewe-lambs owned by W. L. Elkins, Philadelphia, Pa.



Southdown ram lambs. The property of the Pagham Harbour Company, Selsey, Chichester, England. Winners of first prize at R. A. S. E. Show, 1898.



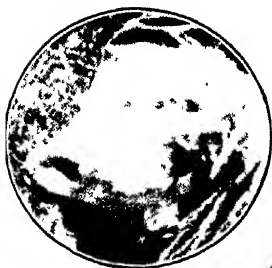
Hampshire flock shown in 1911 by C O Judd, Kent, Ohio.



Imported Oxford Down prize winning ewe, IRCHESTER MODEL 18445, and ram, Hobb's RECTOR 17470. First prize winners at the Trans-Mississippi Exposition held at Omaha 1898. The ram was the champion sheep of the Exposition. Owned by Richard Stone, Stonington, Ill.



Cotswold ewes from the flock of C. E. Ladd, Portland, Oregon, showing the vigor and thrift of sheep when under environment which favors them such as the Willamette Valley, in that state.



Selected heads to show the characteristic form of this part in the breeds represented. The one to the left is photographed from the head of a Cotswold ram owned by Messrs. Geo. Harding & Son, of Waukesha, Wisconsin. This photograph shows the beautiful forelock desired in representatives of this breed. The head shown in the upper right hand corner is that of an imported Shropshire ram lamb owned by Craig & Stevenson, Rice Lake, Wis. The head shown shows not only a very complete covering, but also much width between the eyes and across the forehead, while the ears are well placed being far apart. The photograph of the black faced ram's head which appears in the center is taken from Scott's "Black Faced Sheep," and it represents the head of "SEVENTY-TWO," first prize winner at the Highland and Agricultural Society Shows, 1883 to 1885. The horn illustrates the type which is sought in representatives of any of the horned breeds.

TUNIS OR BROAD TAILED SHEEP.

STANDARD OF EXCELLENCE ADOPTED BY THE AMERICAN
TUNIS SHEEP BREEDERS ASSOCIATION.
SCALE OF POINTS.

	Counts
Blood	20
Constitution	15
Fleece	10
Covering	10
Form and Tail	12
Head and Ears	10
Neck	5
Legs	6
Size	6
General Appearance	6
Total	100

Blood—Imported from Tunis, or having a perfect line of ancestors extending back to the flock owned and bred by Judge Richard Peters of Belmont, near Philadelphia, who received his first pair from Tunis in 1779, and bred them pure for more than 20 years.

Constitution—Healthful countenance, lively look, head erect, deep chest, ribs well arched, round body with good length. Strong, straight back; muscles fine and firm.

Fleece—Medium length, medium quality, medium quantity, color tintured with gray, never pure white. Evenness throughout.

Covering—Body and neck well covered with wool. Legs bare or slightly covered; face free from wool and covered with fine hair.

Form and Tail—Body straight and broad and well proportioned. Small bone; breast wide and prominent in front. Tail the little end should be docked, leaving the fleshy part fan shaped, or tapering; five or ten inches broad, six or eight inches long and well covered with wool.

Head and Ears—Head small and hornless, tapering to end of nose; face and nose clean; in color, brown and white. Ears broad, thin, pendulous, covered with fine hair; in color brown to light fawn.

Neck—Medium in length, well placed on shoulders; small and tapering.

Legs—Short. In color brown and white; slightly woolled not objectionable.

Size—In fair condition, when fully matured, rams should weigh 150 pounds and upwards; ewes 120 pounds and upwards.

General Appearance—Good carriage; head well up; quick elastic movements, showing symmetry of form and uniformity of character throughout.

JUDGING SWINE.

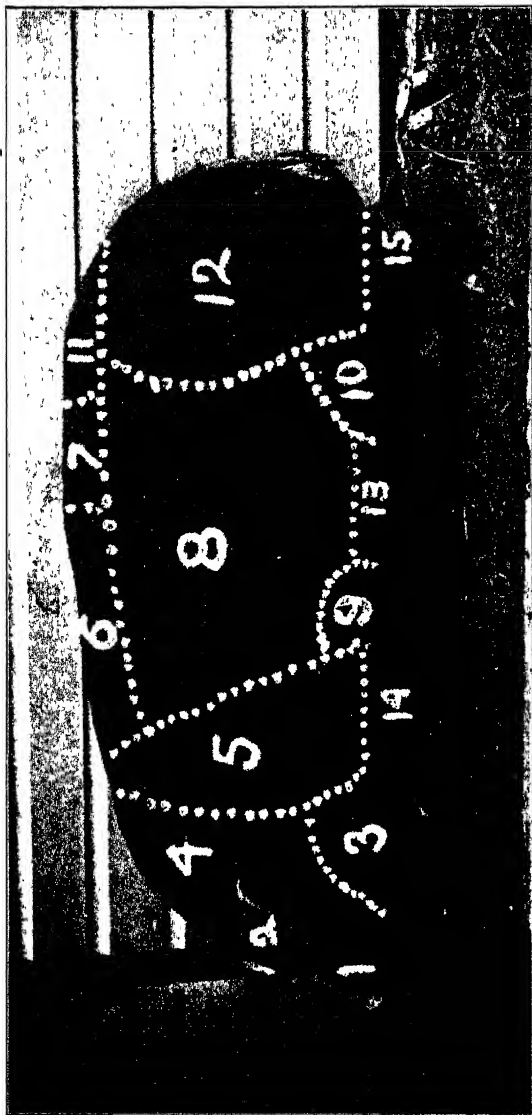


Photo of Poland-China yearling, owned by University of Wisconsin
and bred by Hon W A Jones, Mineral Point, Wisconsin.

1. Snout 2. Ear. 3. Jawl. 4. Neck. 5. Shoulder. 6. Back 7. Loin 8. Side or Ribs. 9. Fore Flank.
10. Flank. 11. Rump 12. Ham. 13. Belly. 14. Fore Leg. 15. Hind Leg.

CHAPTER IV.

JUDGING SWINE.

In judging swine the butcher's preference must be the leading guide as it is in judging all other classes of fat stock. These preferences are in turn largely controlled by the demands of the market, so we find in some markets a bacon hog, so called because of its deep, long sides, is preferred by the butchers; while in others the preference is for fat hogs because there is demand for hams, shoulders and broad, fat backs, and these features would attract the butcher's attention. In forming an opinion as to the best type of swine it is necessary to keep the requirements of these two markets distinctly in view, for they have established for us two very distinct market classes of hogs, the fat hog and the bacon hog. While every consideration should be given to the butcher's preference, for the profit of hog feeding largely lies in successfully catering to them, yet there are some points relating to the feeding qualities of a hog which demand consideration in the joint interests of the feeder and breeder. The evidences of constitution and vigor are things on which the butcher cannot realize profit, but the feeder and the breeder know that they are prime essentials in the animals required for their purpose.

I. JUDGING FAT HOGS.

187. Form—Low, Long, Deep. In respect to the form of the fat hog, one of the leading considerations is the weight, though the market requirements in this respect

are by no means stable. At some times the market preferences are decidedly in favor of the hog weighing 200 pounds, and again in a short while the 400-pound hog makes the top price, but as a rule it will be found that the most profitable weight for selling is from 200 to 300 pounds. This fact meets the breeders' preferences exactly, for he realizes that up to the attainment of this weight his hogs have been making the most profitable gain for him. The influences of the present market are all directed towards the development of a rapidly maturing hog that will be in smooth prime condition for the butcher when it reaches about 250 pounds in live weight. The hogs that fatten quickest and meet the butcher's requirements for fat hogs are low, deep and wide in form. They are compactly built, deep chested, long, and round-ribbed, with straight top and bottom lines sustained by standing squarely on strong and straight legs. Over these parts there is a smoothness that is indicative of the proper development of form and flesh.

188. Quality—Fine Hair; Clean Bone. The indications of quality are fine hair and comparatively light, hard and clean looking bone. Fineness of parts in general is an evidence of quality. Hogs with coarse bone, coarse hair and hide are not the best breeders, and the butcher does not like them because of the large percentage of offal which they dress. In addition to being fine, the hair should lie close to the body and the skin free from undue roughness caused by scurf.

189. Head—Short, Broad. The head of a hog that will fatten readily is very similar in its relative portions and parts to that of a steer, it should be comparatively short and broad. The snout should be of medium length with the face fine in features.

190. Eyes—Clear, Prominent. The eyes should be wide apart and large without any appearance of being watery. Folds of fat in creases about the eyes are common, but are none the less objectionable.

191. Ears—Small, Fine in Texture. The ear should be small in size and pointed. The way the ear is carried depends largely on the parentage of the hog, being erect in the Berkshire, half drooping in the Poland China and wholly pendant in the instance of most of the large white hogs. Large and coarse ears are generally associated with heavy and coarse bone and hide and consequently they are not desirable.

192. Jowl—Firm, Broad, Neat. The jowl should be smooth, firm, broad and neat. A jowl that is flabby owing to the abnormal accumulation of fat in this region is very objectional, and the same may be said of the opposite condition which produces a very small jowl that is sharp at the edges. This region should not be so full as to be pendant and loose.

193. Neck—Short; Narrow Nape. The neck in its upper part nearest the head should spring sharply upward and the ears should be comparatively fine or narrow at the nape, and swell quickly to the breadth of the shoulders. It should be short and thick and deep as well, merging in this region into the brisket without any shrinkage. From the cheeks the neck should swell smoothly into the shoulder vein and pass from the shoulder without any noticeable depression.

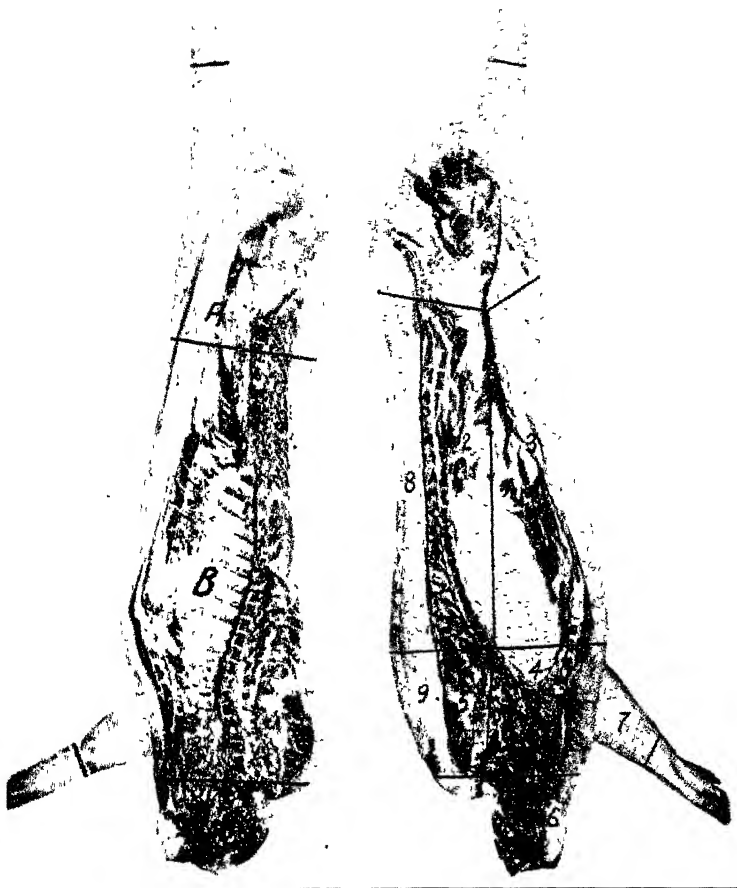
194. Shoulder—Full Vein, Level Top. Just forward of the shoulder where the neck swells most is the region known as the shoulder vein. Fullness in this part is desirable for it generally results in a smoothly covered and wide shoulder. On top, the shoulder should be level, being well packed with flesh, and in addition it should be

broad and deep. To fill out the form desired there should be some development of the brisket, though as a rule there is very little of this in the fat hog.

195. Front Legs—Short, Straight; Pasterns Strong. The front legs should be short, straight, strong and tapering. The pastern should be strong and the feet comparatively short and of medium size. What are known as "bucked knees" or pasterns are sometimes observable in hogs that bend over in these parts. Long, slim pasterns are very undesirable, for hogs having them readily break down when carrying much flesh. The fat hog should stand firm and high on the toes without any evidence of weakness of the pasterns. Viewed from in front the leg should be straight. A rather common defect here is crooked knees which come too close together, but the reverse defect is very rare among hogs.

196. Chest—Low, Wide. The floor of the chest should be as low as possible, for it is the depth and width of this part that adds to the girth. With width between the forelegs there is usually width above on the shoulder, though this is not always true. The girth should be large, for it is undesirable to have any shrinkage just behind the foreleg at the fore flank.

197. Sides—Deep, Fleshed Evenly. The sides may be deep and yet supported with a round rib. Usually depth of side is associated with flatness of rib, but there are many decided exceptions to this to be found among fat hogs. When the rib springs from the back, well arched, and continues to follow the circumference of a circle it gives the hog the appearance of not only being leggy, but also lacking in depth of body. The rib, however, not only should be well sprung, but it should also be long, giving roundness and smoothness of body with more depth than appearance would indicate. The sides should



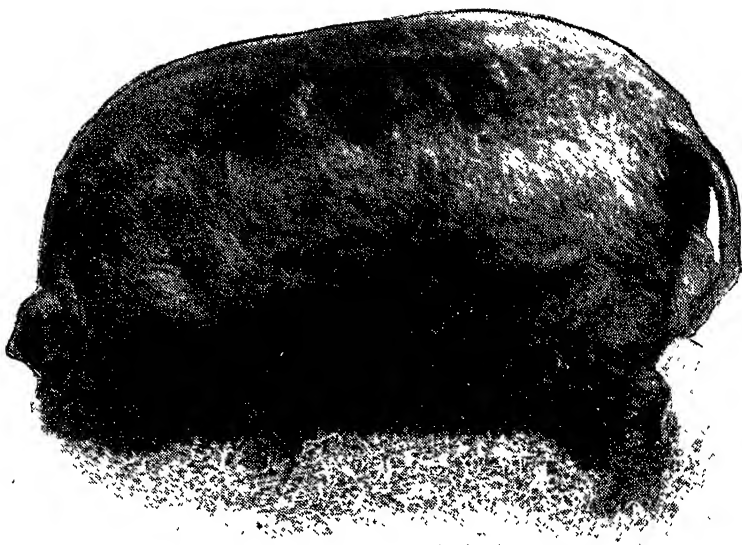
Reprinted from Illinois Bulletin 147.

A English Cuts:

- A. Long-cut ham.
- B. Long side or middle.

B. Side of carcass of a fat hog showing the common method of cutting in the Chicago market.

1. Short-cut ham.	Value, as fresh meat, per pound.	\$ 17½
2. Loin.	Value, as fresh meat, per pound	14½
3. Belly.	Value, as fresh meat, per pound	16
4. Picnic Butt.	Value, as fresh meat, per pound	12
5. Boston Butt.	Value, as fresh meat, per pound	12
6. Jowl.	Value, as fresh meat, per pound.	68
7. Hock.	Value, as fresh meat, per pound.	99½
8. Back Fat.	Value, as fresh meat, per pound	10
9. Clear Plate.	Value, as fresh meat, per pound.	10



Mule Foot Boar, GRAND CHAMPION of the Breed at New York and Ohio State Fairs, 1912. Owned by Jno. H. Dunlap, Williamsport, Ohio, President American Mule Foot Record Association.

DESCRIPTION OF MULE-FOOT SWINE.

The Mule-Foot is the newest improved breed of swine now common in the United States. It takes its name from the character of the hoof, which, instead of being cloven, is solid, somewhat similar to that of a mule. There is no clear record of the origin of this characteristic but hogs possessing it have been known in Kentucky for some time. During the past ten years breeders in Kentucky and Ohio have effected a very great improvement until now its conformation and fattening qualities are similar to those of older lard breeds. In emerging from the unimproved type it has retained much of the vigor and vitality ordinarily, though not necessarily to some extent lacking in highly improved stock. Immunity from cholera has been claimed for this breed but its friends now base its claims to recognition most upon size, growthiness and strong vitality.

See scale of points page 159.

be thickly and evenly fleshed. It is not uncommon to notice creases just behind the shoulders and at different points between the shoulders and the hips. This is an indication of uneven fattening with a poor quality of flesh and is consequently objectionable. From the shoulder to the ham in the fat hog there should be that evenness of line which would permit the laying of a straight edge along the sides from one of these points to the other and no deviation from the edge should be noticed at any point. Usually the development of the shoulders or the hams is as much greater as to leave a marked depression behind the shoulder and forward of the ham.

198. Back—Straight, Broad, Evenly Covered With Flesh. Looking at the back from the side the top line should be straight, though if it rises gradually from the neck to the center of the back and there slopes very gradually to the tail, it usually carries more flesh and is considered a stronger and better back. There certainly should be no depression from shoulder to tail in the back of the hog that is in fat condition. Viewing the back from above it should appear broad and the two lines that bound it on each side should be carried straight from the upper sides of the shoulder to the hips. In addition, the back should be evenly and thickly fleshed. Any tendency towards what is called a fish back, in which the center rises very sharply, is undesirable.

199. Loin—Wide, Thick. The width of the loin should be such as to sustain the width of the back. In addition to being wide it must be straight and thickly fleshed to fill out the lines properly. Another part of the body that should receive some consideration is the belly. The underline should run parallel with the top line; that is, the belly should be equally as straight as the back. The most common defect is a marked drooping in this

region. The fore flank and the hind flank should be nearly on the same level, though this is seldom so, unless the hog is far advanced in fattening. A full and pendant hind flank is an indication of fatness.

200. Hips—Smoothly Covered With Flesh. The hips should be wide apart, completely covered with flesh and low. Where they are placed high, it is seldom that they are smoothly covered with flesh. In an evenly fleshed hog, the location of the hips is not apparent to the eye, so smoothly are they covered.

201. Rump—Long, Smooth. The width of the hips should be carried back over this part. From the hip to the end of the body there should be as much length as may be secured. It is not possible to find a hog that is exactly level over this part, as they invariably droop somewhat towards the tail, but some nevertheless closely approach exact levelness in this region.

202. Hams—Wide, Deep, Plump. Looking at the ham from the side, it should be wide from the stifle to the end of the body and it should also be plump and full right down to the hock. Viewed from behind, width from between the legs to the outside of the ham, is very desirable. Perhaps the most difference in this part will be found in the degree to which the ham continues plump and full towards the hock. This part of the thigh should not be bare, but heavy with flesh.

203. Hind Legs—Properly Set, Strong. The most common defect of the hind leg is a cramped condition of the hock. Though this is most usually found in hogs with light bone, yet it is common among hogs that otherwise appear strong in the limbs. It is noticeable that many hogs are higher behind than in front, showing the line running from the hind quarter to the head, to be very slanting. This is generally caused by the undue length

of the hind legs. The legs should be short, strong and placed wide apart and when the hog moves the hind and the front legs should pass forward in a straight line. An in and out movement of the legs is not uncommon and it accounts for much of the awkwardness observable in the gait of fat hogs.

SCALE OF POINTS FOR FAT HOGS—BARROW.

	Perfect Score
GENERAL APPEARANCE:	
Weight, score according to age.....	6
Form, deep, broad, low, long, symmetrical, compact, standing squarely on legs.....	10
Quality, hair silky; skin fine; bone fine; flesh smooth, mellow, and free from lumps or wrinkles.....	10
Condition, deep, even covering of flesh especially in regions of valuable cuts.....	10
HEAD AND NECK:	
Snout, medium length, not coarse.....	1
Eyes, full, mild, bright.....	1
Face, short, cheeks full.....	1
Ears, fine, medium size, soft.....	1
Jowl, strong, neat, broad.....	1
Neck, thick, medium length.....	1
FORE QUARTERS:	
Shoulder, broad, deep, full, compact on top.....	6
Breast, advanced, wide.....	2
Legs, straight, short, strong; bone clean; pasterns up-right; feet medium size.....	2
BODY:	
Chest, deep, broad, large girth.....	2
Sides, deep lengthy, full; ribs close and well sprung	6
Back, broad, straight, thickly and evenly fleshed.....	10
Loin, wide, thick, straight.....	10
Belly, straight, even	2
HIND QUARTERS:	
Hips, wide apart, smooth	2
Rump, long, wide, evenly fleshed, straight.....	2
Ham, heavily fleshed, plump, full, deep, wide.....	10
Thighs, fleshed close to hocks.....	2
Legs, straight, short, strong; bone clean; pasterns up-right; feet medium size	2
Total	100

II. JUDGING BACON HOGS.

Owing to the demand that has originated in the markets for lean meats, the bacon type of hog has been evolved. The consumption of bacon has extended greatly and this has made a strong demand on the large markets for the type of hog which produces this. To obtain a clear conception of the type required it is essential to remember that flesh is the leading characteristic demanded and with this there are certain peculiar cuts which are quite distinct from those taken from the fat hog.

204. Condition—Even and Thick Fleshed. The condition of the bacon hog is a feature of paramount importance, for it must be smooth over all parts with a thick covering of flesh. It is very necessary to understand that a thin hog is not in any sense a bacon hog. In the bacon hog it is desirable to have about one inch of fat with an abundance of lean flesh in the carcass. It is flesh, muscle or lean meat that is desirable and not in any sense a thin carcass.

205. Form—Smooth, Long, Level, Deep. An important point among the desirable characteristics of the bacon hog is that of form, because this must be peculiar, as there are unusual cuts to be made from the carcass. The side should be as long as possible with great depth and levelness from shoulder to hip. The shoulder should not bulge out and the hams should not be pendant and plump as in the case of the lard hog. If a straight edge is laid along the side of the typical bacon hog it should touch every point from the start of the shoulder to the end of the hind quarter. Width is not sought for, but length and depth are cardinal points. The form should show a striking trimness in every region, due to an even covering of smooth flesh without any soft or flabby parts and a

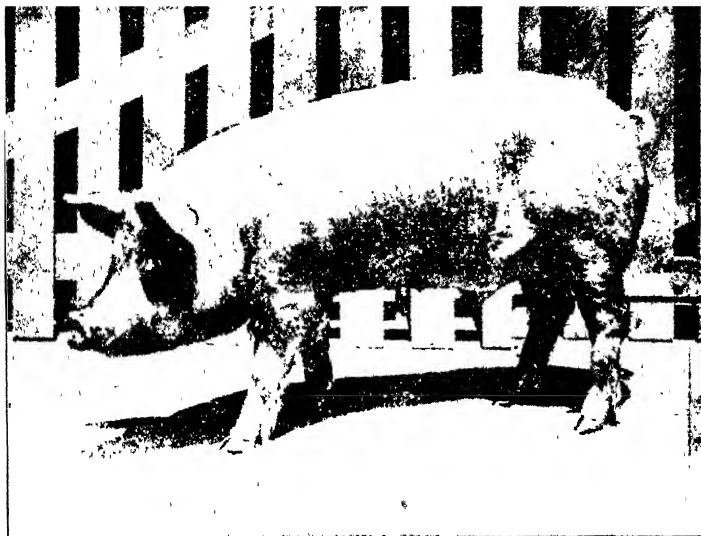


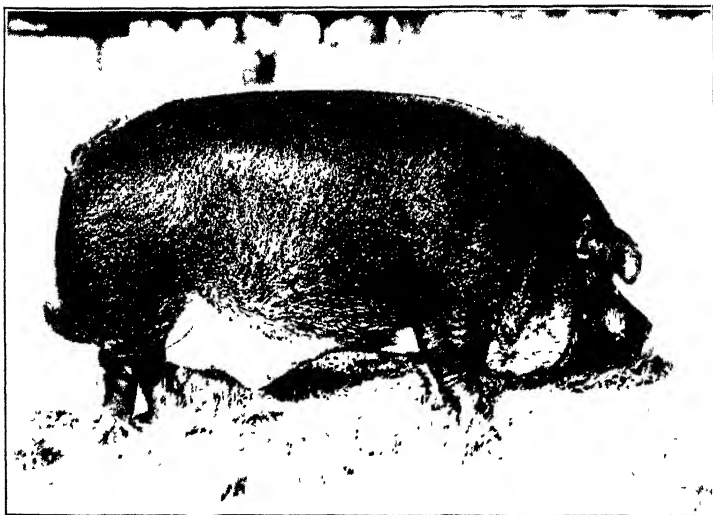
Photo from Ontario Farmers' Institute Report

Photograph showing packers' model of a bacon hog. The extreme length levelness and smoothness are the particular features of this type.



Photo from Ontario Farmers' Institute Report.

Photograph illustrating a pig too thin for the bacon market, but of desirable type in other essentials.



Duroc Boar, BIG WONDER. Owned and shown by O. P. Stevens, Ripley, Ia.

DESCRIPTION OF THE DUROC-JERSEY SWINE.

AT THE National Swine Breeders Convention, held in 1872, the Jersey swine of New Jersey and the Durocs of New York were classified in the families of red swine with similar characteristics; the Durocs it was then stated being finer in bone and carcass than the other reds. Previous to that time the Jersey reds had been bred in New Jersey state for over fifty years. The most popular color for this breed is a deep cherry red without any markings. The type most approved is that of a very compact hog exceedingly smooth in all parts and very close to the ground. The head is fine, the ear light and pendent, neck short and thick, the shoulder full yet smooth with the body, the back slightly arching, wide and strong. The hips deep and the hind quarter very plump and full with meat yet somewhat short, the legs are very short and straight allowing the frame to approach very close to the ground. The type is that of a very early maturing hog that will dress a high percentage of valuable cuts. See Official scale of points, page 172.

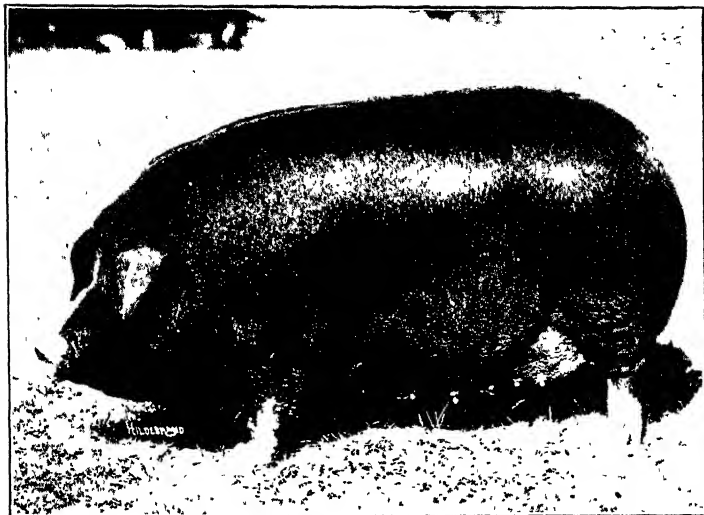
well coupled form without undue coarseness. This trimness should be observable in the smoothness by which the shoulder and the quarter join the side, and it is also brought out very effectively by the thick trim belly which is characteristic of the bacon type.

206. Weight. In reference to the weight that is desirable, the packers uniformly prefer a hog weighing from 170 to 200 pounds live weight. This preference exists in the markets of the world and most decidedly in that of Great Britain where the production of this hog has reached its highest development. It seems that a hog of this weight in proper condition offers the most satisfactory cuts, both in weight and quality.

207. Shoulders—Smooth, Compact. It will not be necessary to dwell on the minor points desired in the bacon type, but merely to discuss the salient features. Among these the shoulders demand attention, for they are much different in the ideal bacon hog than they are in the typical fat hog. The shoulder in the bacon type is not heavy, but completely free from roughness and characterized by compactness. It should fit closely to the body and not show any more width than the back and hind quarter, thereby adding to the trimness of form which is eminently desired in hogs of this type. The flesh should extend well down on the leg, indicating muscular development with a long shoulder cut.

208. Sides—Long, Smooth, Level. The side is a very characteristic point in the bacon type, as it should possess as much length as possible with smoothness and levelness from the beginning of the shoulder to the end of the hind quarter. The choicest bacon comes from this region and on this account there should be as much as possible of the dressed weight in this region. The upper part of the side should carry a straight line from the shoulder to the

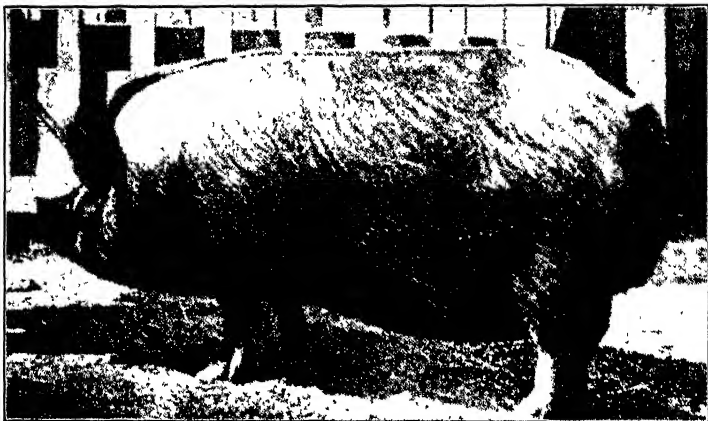
hip and the lower side should show almost as full a line running from the elbow to the stifle. The belly should be thicker with flesh than is usual in the case of the fat hog. In addition this part should be trim in form and thick without any flabbiness or shrinkage at either the fore or hind flank. The hind quarter of the bacon type is markedly different from that of the fat hog, because the extreme development of the latter is not considered an advantage in the bacon type. In the bacon hog the hips should be smooth and proportionately wide to the rest of the body. The hind quarter should be long, even and straight and slightly rounded towards the tail. A peculiar feature in the hog of this type is the gammon, which is a cut very similar to the ham. This should be firm, rounded, tapering and fleshed deep and low towards the hocks. Plumpness or fullness in this part is not considered an advantage; while length with smooth development of muscle is a prime requisite.



Champion Poland China Sow, BEAUTY 2nd Owned by W J Baker,
Rich Hill, Mo

DESCRIPTION OF THE POLAND-CHINA SWINE.

THIS AMERICAN breed of swine originated in the Miami Valley of the Ohio during the years intervening between 1825 to 1840. It had for its ancestry a large coarse hog that was broken in color, being mostly white and black. The improvement of the last 40 years has resulted in producing an exceedingly symmetrical hog with early maturing qualities which has been added to further by disposition very favorable to quick fattening. The modern type shows unusual fullness which makes the width of the body remarkable though giving the appearance of undue shortness. With it all there is a quality of hair, bone and skin which contributes in a great degree to the percentage of meat from the carcass. The color is black with a few white markings, these consisting preferably of a splash on the face, four white feet and white on tip of the tail. The coat of hair should be thick, fine and free from swirls or spots around which the hair seems to twist. The head is small, slightly dished and runs to a fine snout. The ear starts strong and straight from the head but breaks and drops about one-third its length. The shoulder is well covered on top, the girth full, ribs well sprung, deep; hind quarter very full with deep ham. The desirability of plumpness in all parts should not lead to undue shortness of body nor lack of length in the hind quarters. Straightness in the latter is also desirable as frequently the drop from the hip to the tail is quite marked. The legs should be straight and strong and the pasterns set so as to make the hog appear to be standing on the very tip of its toes. See official scale of points, page 161.



Berkshire sow, *ELPHICK'S MATCHLESS*, a prize winner owned by Mr. Edwin Buss, England.

DESCRIPTION OF THE BERKSHIRE SWINE.

DURING the last century this British breed of swine has been the subject of high breeding and careful selection. Writing in 1790, Lawrence describes the Berkshire as being "long and crooked in snout, muzzle turning upwards, ears large and heavy and inclined to be pendulous, the body long and thick but not deep, legs short, bone large and great size." In "The Complete Grazier," written in 1805, the Berkshire of that time is described as follows: "Color reddish brown, with brown, or black spots, sides very broad, flat legs, ears large and pendulous over eyes, body thick, close and well made." The modern type of this breed reflects many changes from the old, as it represents a hog that is black in color with white on the face, feet and tip of tail. They are not such a large hog as those of the original stock as they are long in type, trim without undue roughness over the shoulder or prominence of hips. The face is short and dished, the ears short, pointed and erect, jaws full, back broad and straight, full over the shoulder, the loin thick and level and the hams especially full with short, strong and straight legs. Straightness in lines and trimness and smoothness over all parts are leading Berkshire characteristics and these should be strongly in evidence along the back and especially from the hock backward as the hind quarter should come out square to the tail and be full. As straightness and strength of legs are leading Berkshire features, it should be noted that the fore legs drop straight without any crookedness at the knee and the hind legs should not appear cramped above the hock. A thick coat of black hair lying close to the body and without swirls should contribute much to the general appearance of smoothness which is due in the main to an even covering of firm yet mellow flesh See official scale of points, page 158.

SCALE OF POINTS FOR BACON HOGS—BARBOW.

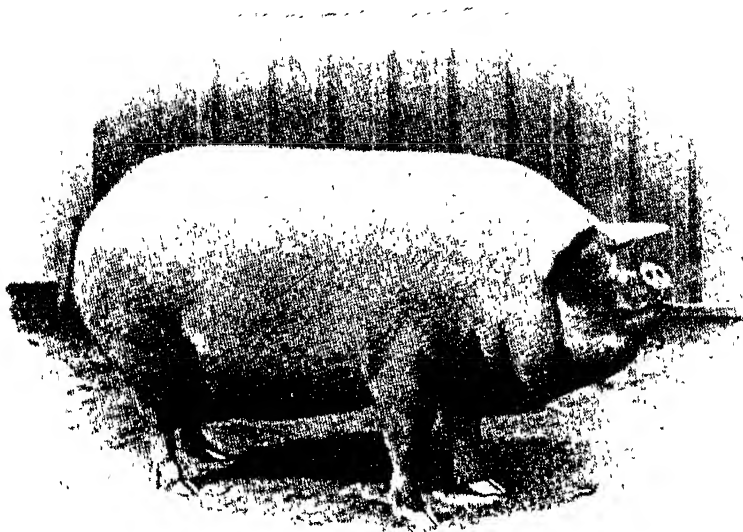
	Perfect Score
GENERAL APPEARANCE:	
Weight, 170 to 200 lbs., largely the result of thick cover of firm flesh.....	6
Form, long, level, smooth, deep.....	10
Quality, hair fine; skin thin; bone fine; firm, even covering of flesh without any soft bunches of fat or wrinkles	10
Condition, deep, uniform covering of flesh, especially in regions of valuable cuts.....	10
HEAD AND NECK:	
Snout, fine	1
Eyes, full, mild, bright.....	1
Face, slim	1
Ears, trim, medium size.....	1
Jowl, light, trim	1
Neck, medium length, light	1
FORE QUARTERS:	
Shoulders, free from roughness, smooth, compact and same width as back and hind quarters.....	6
Breast, moderately wide, full	2
Legs, straight, short, strong, bone clean; pasterns upright; feet medium size	2
BODY:	
Chest, deep, full girth.....	4
Back, medium and uniform in width, smooth.....	8
Sides, long, smooth, level from beginning of shoulders to end of hind quarters. The side at all points should touch a straight edge running from fore to hind quarter	10
Ribs, deep	2
Belly, trim, firm, thick without any flabbiness or shrinkage at flank.....	10
HIND QUARTERS:	
Hips, smooth, wide; proportionate to rest of body....	2
Rump, long, even, straight, rounded toward tail....	2
Gammon, firm, rounded, tapering, fleshed deep and low towards hocks	8
Legs, straight, short, strong; feet medium size; bone clean; pasterns upright	2
Total	100

III. JUDGING SWINE FOR BREEDING PURPOSES.

The judging of swine in the pure bred classes requires of the judge an intimate acquaintance with the scale of points adopted by the different associations of the various breeds. These scales of points have been arranged with much labor by the associations and consequently they should be closely followed. As they are published in full in another part of this work attention will be here given to a few peculiar points that should be sought in all breeds.

209.—Boar. In addition to having the characteristics of the type of the breed, the boar should be strong in those traits that are peculiar to the sex. The head may be slightly inclined to coarseness, the neck full and arched somewhat, with the shoulder heavy. The fore quarters are usually slightly heavier than the hind quarters and this distinction grows greater with age as the shields develop. Strength of frame without coarseness is desirable and the body should be deep, long and low. Just behind the elbow there should be as much depth as possible, as this with a rugged appearance is indicative of a vigorous constitution. Short and strong limbs with straight pasterns of a fine quality should carry the body easily and without awkwardness at all times.

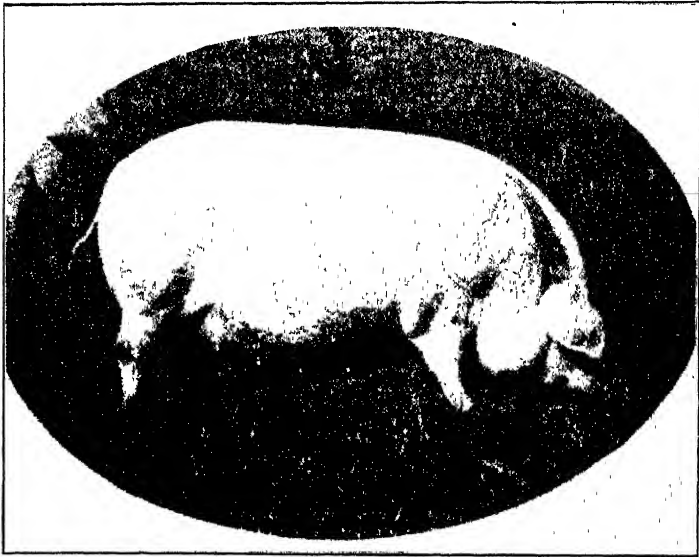
210. Sow. Omitting consideration of the breed type the sow should represent, the sex type is of first importance. There should not be the least appearance of coarseness—the head should be light, neck slim and neat and also inclined to sharpness between and back of the ears. In the sow it is expected that the hips and hind quarters should be slightly wider than the fore, though the width before and behind should be almost uniform. Length of body is specially desirable to give room for the growth of the litter. There should be twelve teats be-



Improved Yorkshire sow, a first prize winner at Toronto Industrial Exhibition, owned by J E Brethour, Burford, Ontario.

DESCRIPTION OF THE YORKSHIRE SWINE.

THERE are three varieties of Yorkshires, namely; the large, middle and the small, and as may be surmised these divisions are based wholly on size. The large Yorkshire is descended from the old English which were white in color with a few black spots and it was bred principally in Yorkshire. Both the white Chinese pigs, introduced at an early time in England, and the Neapolitan swine were used slightly upon the native stock. The middle Yorkshire originated by crossing the small and large varieties. The small Yorkshire is an offshoot of the large varieties containing a large percentage of Chinese blood. The improved large Yorkshire retains the hardness and prolificness of the old English hog and has improved in symmetry, flesh and early maturity through the Chinese cross. They are strong in bone, deep, and long in body and of medium quality throughout. They have thick bellies, well mixed meat and long sides, points that curers of bacon value highly. The middle or improved Yorkshire are as heavy as the large variety but are lighter in bone and head with a smaller quantity of offal. In type they are very similar to the large Yorkshire, being long, level and deep in carcass. The small Yorkshire are finer in quality, possess more symmetry and they are more compact in form. These features contribute to their early maturity but do not enable them to attain the heavy weights of the others. All the varieties are white in color. A few blue spots are permissible but these should not be covered with colored hair. See official scale of points, page 168.



Chester White sow, ALMA, sired by Coco 2223 The property of Joseph Cairns, Camlachie, Ontario, Canada. The litter of ALMA when three months old tipped the scales at 100 pounds.

DESCRIPTION OF THE CHESTER WHITE SWINE.

THIS BREED which originated in Chester county, Pennsylvania, about the beginning of the last century was the result of crossing the big Chinas with white pigs from Bedfordshire, England, which were of Yorkshire decent, thus giving these breeds much in common. The Chester White is a large breed, strong though fine in bone, vigorous with very deep and lengthy bodies. They should be pure white in color and where black spots occur, these should not be covered with colored hair. The head has a fine snout with broad face slightly dished and the ears pendent. The jaw is light and the neck short and deep. Depth of chest is a very desirable characteristic and this should also be a feature of the body. The shoulder should fit snugly to the body and its width should be almost uniform with that of the body and hind quarter. Uniformity in these lines is desirable as the girth over the heart should be about equal to that around the flank. The hair should be fine and lie close to the body without any tendency to harshness or extreme coarseness. See official scale of points, page 165.

ginning well forward and none of them blind. Blind teats in young sows do not protrude as the normal teats do, and when the sow has farrowed they usually fail to yield any milk.

In judging swine the best plan is to have them arranged in small yards so that they may be readily compared and driven enough to determine whether or not they are strong and active on their legs.

IV. OFFICIAL STANDARDS OF EXCELLENCE FOR SWINE.

BERKSHIRE SWINE.STANDARD OF EXCELLENCE ADOPTED BY THE AMERICAN
BERKSHIRE ASSOCIATION.

	Counts
Color —Black, white feet, face and tip of tail, but skin and hair occasionally showing tinge of bronze or copper color. An occasional splash of white not objectionable; lack of either of white points admissable.....	3
Face and Snout —Face well dished and broad between eyes. Snout short and broad.....	7
Eyes —Prominent, clean, clear, large, dark hazel or grey..	2
Ears —Medium size, setting well apart, carried fairly erect, inclining forward, especially with age.....	3
Jowl —Full, firm, not flabby or hanging too low, running back well on neck.....	3
Neck —Full, short and slightly arched; broad on top; well connected with shoulder	3
Hair —Fine, straight, smooth, lying close to and covering the body well. Free from bristles.....	3
Skin —Smooth and mellow.....	3
Chest —Deep, full and wide, with good heart girth.....	6
Shoulder —Smooth and even on top and in line with side..	6
Side —Deep, smooth, well let down; straight side and bottom lines	6
Back —Broad, full, strong, level or slightly arched; ribs well sprung	10
Flank —Extending well back and low down on leg, making nearly a straight line with lower part of side....	5
Loin —Full, wide and well covered with flesh.....	6
Ham —Deep, wide, thick and firm, extending well up on back and holding thickness well down to hock.....	10
Tail —Well up on line with back; neither too fine, short nor tapering	2
Legs and Feet —Straight and strong, set wide apart, short in pastern, with hoofs nearly erect, capable of carrying great weight	10
Size —Size all that is possible without loss of quality or symmetry, with good length. Weight in good condition, boars at 12 months, 350 to 450 lbs.; at 24 months, 500 to 700 lbs.; sows at 12 months, 350 to 400 lbs.; at 24 months, 500 to 700 lbs.....	6
Appearance and Character —Vigorous, attractive, of good disposition, firm and easy movement.....	6
Total	100

BERKSHIRE SWINE.

The Berkshire Society of Great Britain has issued to the leading Agricultural Show Societies the following instructions as guides to judges in making their awards:

"We recommend that a perfectly black face, or a black foot, or black tail should disqualify a pig in the show yard. White or sandy spots on the top or sides of the animal, or a decidedly white ear should be disqualifications. Any descrip-

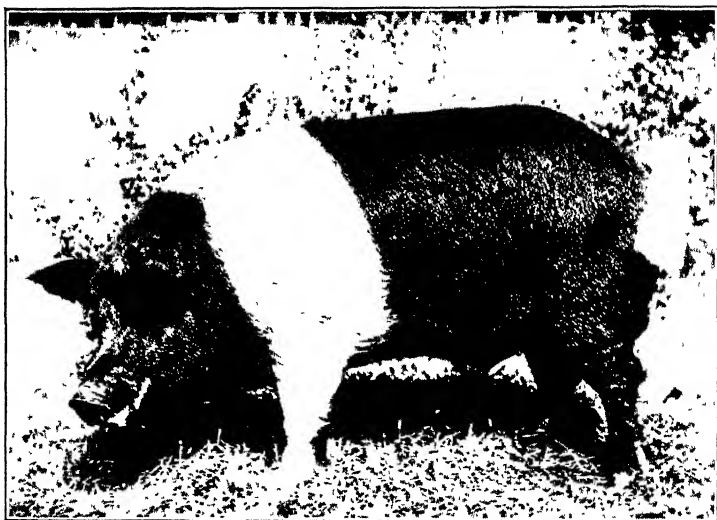


Photo by Hills.

Tamworth sow, KATY BELL, a very prolific sow that reared thirty-three living pigs in one year, while in the herd at the Iowa State College.

DESCRIPTION OF THE TAMWORTH SWINE.

THIS ENGLISH breed has been bred with care during the past sixty years without any infusions of foreign blood, consequently the representatives of this breed are very uniform as to color and type. The color should be a cherry red or a dark chestnut and very uniform in shade throughout without any black spots in skin or patches of hair other than the color indicated. The form should show the type that is desired for bacon production, this means a hog that is exceedingly light in offal with a long trim body and especially very smoothly covered with firm flesh indicating a desirable mixture of fat and flesh. The head should be slim, the snout fine and not unduly long, the ear of appropriate size for the head with the neck sharp between the ears and light, swelling easily to cover a deep shoulder smoothly. Depth of shoulder desirable but without any roughness. The shoulder should not bulge out beyond the body or the hips for this detracts from the general appearance of trimness and smoothness which is so very desirable. The back should be long and strong with a gradually rising arch over the shoulder to the loin and then a corresponding descending line from there to the end of the tail. Width of the back is not demanded but extreme smoothness and an even covering of firm flesh is absolutely essential. The ribs should drop as deep as possible making the body appear from the side as if it had abundance of depth. The loin is even in width with the shoulder and back well covered. The hind quarter lacks the width characteristic of the lard hog as this should not be any wider than the parts which precede it. Length of ham or gammon is a peculiar feature which should be looked for. A long ham, fleshed firmly towards the hock without folds of fat is eminently desired. The leading features of the type throughout are length and depth with trimness and smoothness in all regions. See official scale of points, page 181.



A Prize Winning Hampshire Boar.

DESCRIPTION OF HAMPSHIRE.

The Hampshire, formerly known as the Thin Rind, is one of the most recently formed breeds of swine. Its most striking feature is the belt of white on the body otherwise black. This belt varies somewhat in position and width, but is essential to an animal's being considered a true Hampshire.

Hogs with white belts existed in some of the English counties years ago. Some of them were brought to America and have been called "listed" hogs. The breed has received most of its improvement during the past twenty years, largely through the work of breeders in Kentucky and Illinois. It possesses the characters of prolificacy, growthiness and vigor, sometimes lost as a result of injudicious selection under corn belt conditions. Its advocates formerly claimed recognition for it as a bacon breed. This claim is now seldom made. While the Hampshire has more length than some types of other American breeds, it does not closely resemble the breeds bred especially for bacon instead of lard. The breed is very popular with packers, partly because of the light hide from which it took its former name.

See scale of points page 170.

tion of coloring, staining or clipping should also be a disqualification. White on the ear or under the throat or on the under-line of the body, should be considered objectionable. Either too much or too little white in the place of the recognized markings should be an objection, also to be noted in the competition."

MULE-FOOT SWINE.

OFFICIAL SCALE OF POINTS ADOPTED BY THE NATIONAL
MULE-FOOT HOG RECORD ASSOCIATION.

	Score.
Head and Face	4
Eyes	2
Ears	2
Neck	2
Jowl	2
Shoulders	6
Chest	12
Back and Loins	15
Sides and Ribs	8
Belly and Flank	6
Ham and Rump	10
Feet and Legs	10
Tail	1
Coat	2
Color	2
Size	5
Action and Style	4
Condition	4
Disposition	3
Total.	100

DISQUALIFICATIONS.

- Color**—More white than black.
Form—Slit or creased hoof; broken down feet; any radical deformity.
Condition—Any diseased condition; barrenness.
Size—Not two-thirds standard weight.
Pedigree—Not eligible to record.

DETAILED DESCRIPTION.

1. Head and Face—Head medium length. Face broad between the eyes, nearly straight, cheeks full, surface even and regular.

Objections—Head large, coarse, crooked or much dished.

2. Eyes—Bright and lively, free from wrinkles or fat surroundings.

Objections—Small, deep or obscure, or vision impaired by fat or other causes.

3. Ears—Medium length, thin tipped, slightly inclined outward and forward; knuck small and well set to the head.

Objections—large, coarse, thick, large or long ~~knuck~~, drooping or not under good control of the animal.

4. **Neck**—Short, well set to the shoulders, tapering from shoulder to head.

Objections—Long, thick or bulky.

5. **Jowl**—Full, neat and firm, and tapering from neck to joint.

Objections—Thin or flabby.

6. **Chest**—Large, deep and roomy; full girth, extending down even with line of belly.

Objections—Narrow at top or bottom, small girth, cramped or tucked up.

7. **Back and Loin**—Slightly arched; good breadth, with uniform thickness from shoulder to ham; full at loin.

Objections—Narrow, creased or drooped behind shoulders; surface ridgy or uneven.

8. **Sides and Ribs**—Sides full, smooth form, carrying evenly from shoulders to hams; ribs strong, well sprung at top and bottom.

Objections—Sides thin, flat, flabby or creased; ribs not well sprung.

9. **Belly and Flank**—Straight and full, devoid of coarseness; flank full and running nearly on line with side.

Objections—Belly swagging or flabby, coarse; flank thin or tucked up.

10. **Hams and Rump**—Hams full, long and deep; rump slightly rounded from loin to root of tail; buttock full, neat, firm.

Objections—Hams narrow, cut too high in the crotch; rump too steep or too narrow, peaked at root of tail; buttock flabby.

11. **Legs and Feet**—Legs medium length, set well apart and squarely under body, wide above knee and hock, rounded and well muscled below, tapering, medium bone, pasterns short and nearly upright; foot solid, short, smooth, enabling the animal to carry its weight with ease.

Objections—Legs too long or too short, slim, crooked or coarse; foot long, slim, weak or turned up.

12. **Tail**—Medium length, straight or slightly curled.

Objections—Coarse, long, clumsy, swinging like a pendulum.

13. **Coat**—Fine, straight, smooth.

Objections—Bristles or swirls; too coarse or too curly.

14. **Color**—Black; white points admissible.

Objections—Too much white, too many and too large white spots on body.

15. **Size**—Large for condition; boar two years old should weigh 500 pounds, sow, same age, 450; eighteen months boar, 375, sow, same age, 350; twelve months boar or sow, 300; six months boar or sow 175 pounds.



Berkshire Sows Owned by Iowana Farms, Davenport, Iowa



Champion Yorkshire Boar, DANDY STUFF. Owned by T. J. Manley, Guthrie, Iowa.



A Prize Winning Duroc Barrow Bred and shown by Thomas, Johnson and Sons, Columbus, Ohio.



Berkshire sow, HIGHCLERE COUNTESS IX, of Hood Farm, and her litter of nine pigs at three weeks old, by Wantage King of Hood Farm. First prize winner at numerous fairs in 1898. Two of the pigs are under the others, the white brush of one showing between the second and third from the left end, and the other in the same position from the other end. Owned by Hood Farm, Lowell, Massachusetts.

16. Action and Style—Active, vigorous, graceful, style attractive.

Objections—Dull, sluggish and clumsy.

17. Condition—Healthy; skin free from defect; fresh, smooth, firm and evenly laid on.

Objections—Unhealthy; skin scurfy, scaly or mangy; hair harsh, not growthy.

18. Disposition—Docile, quiet and easily handled.

Objections—Cross, restless, nervous, sluggish or without ambition.

POLAND-CHINA SWINE.

SCALE OF POINTS PUBLISHED BY THE NATIONAL ASSOCIATION OF EXPERT JUDGES OF SWINE.

Head and Face.....	4
Eyes	2
Ears	2
Neck	2
Jowl	2
Shoulders	6
Chest	12
Back and Loin	15
Sides and Ribs	8
Belly and Flank	6
Ham and Rump.....	10
Feet and Legs.....	10
Tail	1
Coat ..	2
Color	2
Size	5
Action and Style.....	4
Condition	4
Disposition	3
Total.....	100

DISQUALIFICATIONS.

Form—Upright ears; small, cramped chest, crease back of shoulders and over the back so as to cause a depression in back easily noticed; deformed or badly crooked legs; feet broken down, so that the animal walks on pastern joints.

Size—China build, or not two-thirds large enough for age.

Condition—Excessive fatness; barrenness; deformed; seriously diseased; total blindness, caused by defective eyes, or by reason of fat or loose and wrinkled skin over the eyes.

Score—Less than sixty points.

Pedigree—Not eligible to record.

DETAILED DESCRIPTION.

Head and Face—Head short and wide; cheeks full; jaws broad; forehead high and wide; face short; smooth; wide be-

tween the eyes; tapering from eyes to point of nose and slightly dished; surface even and regular.

Objections—Head long; narrow; coarse; forehead low and narrow or contracted; lower jaw extending beyond upper; face long, straight and narrow between the eyes; nose coarse, thick or crooked, ridgy or dished as much as a Berkshire.

Eyes—Large, prominent; bright; lively, clear and free from wrinkled or fat surroundings.

Objections—Small, dull, blood-shot, deep set or obscure, vision impaired by wrinkles, fat or other cause.

Ears—Small; thin; soft; silky; attached to the head by a short and small knuckle; tips pointing forward and slightly outward, and the forward half drooping gracefully; fully under control of animal; both of same size, position and shape.

Objections—Large; straight; stiff; coarse; thick; round; long or large knuckle, drooping close to face, swinging and flabby; difference in form, size or position.

Neck—Wide; deep; short, and nicely arched at top, from poll of head to shoulder.

Objections—Long; narrow; thin; flat on top; not extending down to breast bone; tucked up.

Jowl—Full; broad; deep; smooth and firm; carrying fullness back near to point of shoulders, and below line of lower jaw, so that lower line will be as low as breast bone when head is carried up level.

Objections—Light; flabby; thin; wedge shaped; deeply wrinkled; not drooping below line of lower jaw, and not carrying fullness back to shoulder and brisket.

Shoulders—Broad; deep and full; not extending above line of back, and being as wide on top as back; carrying size down to line of belly and having good lateral width.

Objections—Narrow; not same depth as body; narrow on top or bottom or extending above line of back; less than body in breadth at top or bottom portions, or lacking in lateral width; shields on boars under eight months of age, or large, heavy shields on hogs under eighteen months of age.

Chest—Large; wide; deep; roomy, indicating plenty of room for vital organs, and making a large girth just back of shoulders; the breast bone extending forward so as to show slightly in front of legs and extending in a straight line back to end of breast bone; showing width of not less than six inches between fore legs in a large, full grown hog.

Objections—Flat; pinched; narrow at top or at either end of breast bone; breast bone crooked or not extending slightly in front of fore legs.

Back and Loin—Broad; straight; or slightly arched; carrying same width from shoulder to ham; surface even; smooth, free from lumps, creases or projections; not too long, but broad on top, indicating well sprung ribs; should not be higher at hip than at shoulder and should fill out at junction, with side so that a straight edge placed along top of side will touch all the way from point of shoulder to point of ham; should be shorter than the lower belly line.

Objections—Narrow; creased back of shoulders; swayed or hollow; dropping below a straight line; humped or wrinkled; too long, or sunfish shaped; loin high, narrow, depressed or humped up; surface lumpy, creased, ridgy or uneven; width at side not as much as shoulder and ham.

Sides and Ribs—Sides full; smooth; firm and deep; carrying size down to belly and evenly from ham to shoulder; ribs long, strong, well sprung at top and bottom.

Objections—Flat; thin; flabby; pinched; not as full at bottom as top; drawn in at shoulders so as to produce a crease or pinched and tucked up and in as it approaches the ham; lumpy or uneven surface; ribs flat or too short.

Belly and Flank—Wide, straight and full and drooping as low at flank as bottom of chest; back of fore leg making a straight line from fore legs to hind legs; flank full and out even with surrounding portions of body; the belly at that point drooping down on a line with lower line of chest; the loose skin connecting ham and belly being on a line even with bottom of side.

Objections—Belly narrow; pinched; sagging or flabby. Flank tucked up or drawn in.

Hams and Rump—Hams broad; full, long and wide. They should be as wide at point of the hip as the swell of the ham. Buttocks large and full; should project beyond and come down upon and full between the hocks. The lower front part of the ham should be full and stifle well covered with flesh and a gradual rounding toward the hock. Rump should have a rounding slope from loin to root of tail; same width as back and filling out full on each side of, and above the tail.

Objections—Ham narrow; short; thin; not projecting beyond and coming down to hock; cut up too high in crotch or twist; lacking in fullness at top or bottom; lacking in width from stifle straight back; lower fore part thin and flat; straight from root of tail to hock; buttocks light, thin or flabby. Rump flat, narrow and peaked at root of tail; too steep.

Legs and Feet—Legs medium length; straight, set well apart and squarely under body; tapering; well muscled and wide above knee and hock; below hock and knee round and tapering, capable of sustaining weight of animal in full flesh without breaking down; bone firm and of fine texture; pasterns short and nearly upright. Feet firm; short, tough and free from defects.

Objections—Legs long; slim; coarse; crooked; muscles small above hock and knee; bone large; coarse, as large at foot as above knee; pasterns long, slim, crooked or weak; the hocks turned in or out of straight line; legs too close together; hoofs long, slim and weak; toes spreading or crooked or unable to bear up weight of animal without breaking down.

Tail—Well set on; small, smooth, tapering and carried in a curl.

Objections—Coarse; long; crooked or hanging straight down like a rope.

Coat—Fine; straight; smooth; laying close to and covering the body well; not clipped; evenly distributed over body.

Objections—Bristles; hair coarse; harsh; thin; wavy or curly; swirls; standing up; ends of hair split and brown, not evenly distributed over all of the body except belly. Clipped coats should be cut 1.5 points.

Color—Black with white in face or on lower jaw; white on feet and tip of tail, and a few small, clear white spots on body not objectionable.

Objections—Solid black, more than one-fourth white; sandy hairs or spots; a grizzled or speckled appearance.

Size—Large for age and condition; boars two years old and over, if in good flesh, should weigh not less than 500 pounds. Sows same age and condition not less than 450 pounds. Boars eighteen months old, in good condition, not less than 400 pounds; sows, 350 pounds. Boars twelve months, not less than 300 pounds; sows, 300 pounds. Boar and sow six months, not less than 150 pounds. Other ages in proportion.

Objections—Overgrown; coarse; gangling, or hard to fatten at any age.

Action and Style—Action vigorous; easy; quick and graceful. Style attractive; high carriage; and in males testicles should be of same size; carriage, readily seen and yet not too large.

Objections—Slow; dull; clumsy; awkward; difficulty in getting up when down; low carriage; wabbling walk. In males testicles not easily seen, not of same size or carriage, too large or only one showing.

Condition—Healthy; skin clear of scurf, scales, or sores; soft and mellow to the touch; flesh fine, evenly laid on and free from lumps or wrinkles. Hair soft and lying close to body; good feeding qualities.

Objections—Unhealthy; skin scaly, wrinkly, scabby or harsh, flabbiness or lumpy flesh; too much fat for breeding. Hair harsh, dry and standing up from body; poor feeder; deafness, partial or total.

Disposition—Quiet, gentle and easily handled.

Objections—Cross, restless, vicious or wild.

CHESTER WHITE SWINE.

SCALE OF POINTS AS ADOPTED BY THE CHESTER WHITE RECORD
ASSOCIATION, DEC. 1, 1913. ALSO ADOPTED BY THE
O. I. C. SWINE BREEDERS ASSOCIATION,
DEC. 3, 1913.

SCALE OF POINTS.

Head and Face.....	4
Eyes	2
Ears	2
Neck	2
Jowl	2
Shoulders .. .	6
Chest	12
Back and Loin.....	14
Sides and Ribs.....	9
Belly and Flank.....	4
Ham and Rump	10
Feet and Legs.....	9
Tail	1
Coat	3
Color	2
Size	8
Action and Style.....	3
Condition	2
Disposition	2
Symmetry	3
Total... ..	100

DETAILED DESCRIPTION.

Head and Face—Head short and wide; cheeks neat; jaws broad and strong; forehead medium, high and wide; face face short and smooth; nose neat, tapering and slightly dished.

Objections—Head long, narrow or coarse; cheeks too full; forehead low and narrow; jaws contracted and weak; face long, narrow and straight; nose coarse, clumsy or dished like a Berkshire.

Eyes—Bright, large, clear and free from wrinkles or overhanging fat.

Objections—Small, deep set, surrounded by wrinkles or fat.

Ears—Drooping at tip to give graceful appearance; thin; soft; pointing outward and forward; well proportioned to size of body.

Objections—Too large and coarse; thick, lopping; lying too near the face; stiff, erect, or too small. Not under control.

Neck—Wide; deep; short and nicely arched; neatly tapering from shoulder.

Objections—Narrow; thin; long; flat on top; tucked up; not extending down to breast bone.

Jowl—Smooth; neat; firm; full; carrying fullness well back to shoulders and brisket when head is carried up level.

Objections—Light; rough and deeply wrinkled; too large and flabby; not carrying fullness back to shoulders and brisket.

Shoulders—Broad; deep and full; extending in line with the side and carrying size down to line of belly.

Objections—Deficient in width or depth; extending above line of back; thick beyond line of sides and hams; shields on boars too coarse and prominent.

Chest—Heartgirth—Large, wide, deep and full; even under line to the shoulder and sides with no creases; giving plenty of room for the heart and other organs, making a large girth indicating much vitality. Brisket smooth, even and broad; wide between the legs and extending well forward showing in front.

Objections—Pinched appearance at the top or bottom, or tucked in back of forelegs; showing too narrow between the legs, not depth enough back of the shoulder. Brisket uneven, narrow, not prominent.

Back and Loin—Broad; straight or slightly arched; uniform width; free from lumps or rolls; same height and width at shoulder as at ham.

Objections—Narrow; swayed; humped; creasing back of shoulders; sun-fish shaped; uneven width; lumps or rolls.

Sides—Full; smooth; deep; carrying size down to line of belly; even with line of ham and shoulder.

Objections—Flat; thin; flabby; uneven surface; compressed at bottom; shrunk at shoulder and ham.

Ribs—Long; well sprung at top and bottom; giving animal a square form.

Objections—Too short; flat.

Belly—Same width as back; full; straight; drooping as low at flank as at bottom of chest; line of lower edge running parallel with sides.

Objections—Narrow; pinched; sagging or flabby.

Flank—Full and even with body; equalling heartgirth.

Objections—Thin, tucked up or drawn in; less than heartgirth or length of body from top of head to root of tail.

Ham or Rump—Broad; full; long; wide and deep; admitting of no swells; buttock full, neat and clean; stifle well covered with flesh, nicely tapering toward the hock; rump slightly rounding from loin to root of tail, same width as back, making an even line with sides.

Objections—Narrow; short; not filled out to stifle; too much cut up in crotch or twist; not coming down to hock; buttocks flabby; rump flat, narrow, too long, too sharp or peaked at root of tail.

Legs—Medium length; strong and straight; set well apart and well under body; bone of good size; firm; well muscled; wide above knee and hock, round and tapering below knee and hock, enabling the animal to carry its weight with ease; pasterns short and nearly upright.

Objections—Too short or too long; weak; crooked; too close together; muscles weak; bone too large and coarse, without taper; pasterns long, crooked or slim.

Feet—Short; firm; tough; animal standing well up on toes.

Objections—Hoofs long, slim, weak; toes spreading, crooked or turned up.

Tail—Small; smooth; nicely tapering; root slightly covered with flesh; carried in a curl.

Objections—Coarse; too long; clumsy; straight.

Coat—Fine; either straight or wavy with preference for straight; evenly distributed and covering the body well.

Objections—Bristles; swirls; hair coarse, thin, standing up, not evenly distributed over all the body except the belly.

Color—White. Red or black spots in hair disqualify, but blue spots in hide (commonly known as freckles) while objectionable and should be discouraged, do not argue impurity of blood.

Objections—Color any other than white.

Size—Large for age and condition. Boar two years and over, if in good flesh, should weigh not less than 500 pounds; sow same age and condition, not less than 450 pounds. Boars eighteen months old, in good flesh, should weigh not less than 400 pounds; sows, 350. Boars twelve months old, not less than 350 pounds; sows, 300. Boars and sows six months old not less than 150 pounds each, and other ages in proportion.

Objections—Overgrown, coarse, uncouth, hard to fatten.

Action—Easy and graceful; high carriage; active; gentle and easily handled. In males testicles should be readily seen, and of same size and carriage.

Objections—Sluggish; awkward; low carriage; wild, vicious. In males, testicles not distinctly visible, or not of same size and carriage.

Condition—Healthy and mellow touch, fat evenly laid on.

Objections—Harsh to touch, flabbiness, fat in lumps on back or sides.

Disposition—Quiet and gentle.

Objections—Cross, restless, quarrelsome.

Symmetry or Adaption of Points—The adaption of all the points, size and style combined to make the desired type or model.

DISQUALIFICATIONS FOR REGISTRY.

1. Sows scoring less than 60 points.
2. Boars scoring less than 70 points.
3. Red or black hair in coat.
4. Barren or stunted animals.

YORKSHIRE SWINE.

SCALE OF POINTS OF THE LARGE IMPROVED YORKSHIRE

ADOPTED BY THE AMERICAN YORKSHIRE CLUB.

	Counts
General Outline —Long and deep in proportion to width, but not massive; slightly arched in the back, symmetrical and smooth, with body firmly supported by well-placed legs of medium length.....	5
Outline of Head —Moderate in length and size, with lower jaw well sprung, and some dish toward snout, increasing with advancing maturity.....	4
Forehead and Poll —Wide.....	1
Eye —Medium size, clear and bright.....	1
Jowl —Medium, not carried too far back, toward neck, and not flabby	1
Snout —Turning upward with a slight curve, increasing with age	1
Ear —Medium in size, standing well out from head, nearly erect, but inclining slightly forward.....	1
Neck —Of medium length, fair width and depth, rising gradually from poll to withers, muscular, but not gross, evenly connecting head with body.....	3
Outline of Body —Long, deep, and of medium breadth, equally wide at shoulder, side and hams; top line slightly arched, underline straight.....	7
Back —Moderately broad, even in width from end to end; strong in loin, short ribs of good length.....	10
Shoulder —Large, but not massive; not open above.....	6
Arm and Thigh —Broad and of medium length and development	2
Brisket —Wide and on a level with underline.....	3
Side —Long, deep, straight and even from shoulder to hip	8
Ribs —Well arched and deep.....	5
Heart Girth and Flank Girth —Good and about equal...	8
Hind Quarters —Long to correspond with shoulder and side, deep with moderate and gradual droop to tail...	5
Ham —Large, well let down on thigh and twist and rear outline somewhat rounded	10
Twist —Well down and meaty.....	1
Tail —Medium, not much inclined to curl.....	1
Legs —Medium in length, strong, not coarse, but standing straight and firm.....	5
Hair —Abundant, long, of medium fineness without any bristles	4
Skin —Smooth and white, without scales, but dark spots in skin do not disqualify.....	2
Color —White on every part.....	1
Movement —Active, but not restless.....	5
Total	100

THE YORKSHIRE TYPE.

The above scale of points gives some idea of the relative importance of the points to consider in selecting Yorkshires, but it is well to keep a good idea of the general conformation in mind.

The type of any animal is determined, of course, by the use to which the animal is to be put, either alive or dead as the case may be. Since the ultimate object of the Yorkshire is the production of fancy ham and bacon, and principally bacon, we must select the kind of form that will produce a carcass comprising the greatest amount of those products with the least amount of waste. So the most important point to consider in selecting a Yorkshire is the length and depth of side. Thickness from side to side is not essential. If the hog has the proper depth of side the inside cavity will be large enough for the vital organs even if we secure extreme narrowness of form. If we are to have a narrow long body it is very important to have the top line slightly arched for the back of such a hog is subjected to greater strain than one with the short body.

Then briefly we want as a whole, a long, deep bodied hog, with a good back, good deep hams but rather light shoulders; and other things being equal we want the body of the least thickness from side to side.

Too many breeders, who perhaps have been used to the lard type, make the mistake of selecting Yorkshires with as great width as possible. Avoid this by all means for the conditions of feed and climate prevailing in the United States tend toward thickening the body without any aid by selection.

HAMPSHIRE SWINE.

HAMPSHIRE STANDARD OF PERFECTION.

The following is the Standard of Perfection of Hampshire hogs, revised and adopted by the American Hampshire Swine Record Association at their late meeting:

DISQUALIFICATIONS.

Color—Spotted, more than two-thirds white or solid black.

Form—Any radical deformity, ears very large or drooping over eyes, crooked or weak legs or broken-down feet.

Condition—Seriously impaired or diseased, excessive grossness, barrenness in animals over two years of age, chuffy or squabby fat.

Size—Not two-thirds standard weight.

Pedigree—Not eligible to record.

DETAILED DESCRIPTION.

	Counts
1. Head and Face —Head medium length, rather narrow, cheeks not full; face nearly straight and medium width between the eyes, surface even and regular...	4
Objections—Head large, coarse and ridgy, nose crooked or much dished.	
2. Eyes —Bright and lively, free from wrinkles or fat surroundings	2
Objections—Small, deep or obscure, or vision impaired by fat or other cause.	
3. Ears —Medium length, thin, slightly inclined outward and forward	2
Objections—Large, coarse, thick, large or long knuck, drooping or not under good control of the animal.	
4. Neck —Short, well set to the shoulders, tapering from shoulder to head	3
Objections—Long, thick or bulky.	
5. Jowl —Light and tapering from neck to point, neat and firm	2
Objections—Large, broad, deep or flabby.	
6. Shoulders —Deep, medium width and fullness, well in line with back	6
Objections—Narrow on top or bottom, thick beyond line with sides and hams.	
7. Chest —Large, deep and roomy; full girth, extending down even with the line of belly	12
Objections—Narrow at top or bottom; small girth, cramped or tucked up.	
8. Back and Loins —Back straight or slightly arched; medium breadth, with nearly uniform thickness from shoulders to hams and full at loins—sometimes higher at hips than at shoulders	15
Objections—Narrow, creased or drooped behind shoulders; surface ridgy or uneven.	
9. Sides and Ribs —Sides smooth, full, firm, carry size evenly from shoulders to hams; ribs strong, well sprung at top and bottom.	8
Objections—Sides thin, flat, flabby or creased or ribs not well sprung.	

10. **Belly and Flank**—Straight and full, devoid of grossness; flank full and running nearly on line with sides
 Objections—Belly sagging or flabby; flank thin or tucked up. 6
11. **Hams and Rump**—Hams of medium width, long and deep; rump slightly rounded from loin to root of tail; buttock full, neat and firm, devoid of flabbiness or excessive fat..... 10
 Objections—Ham narrow, cut too high in crotch, buttock flabby, rump too fat, too narrow or too steep, or peaked at root of tail.
12. **Legs and Feet**—Legs medium length, set well apart and squarely under body, wide above knee and hock, and rounded and well muscled below, tapering, bone medium, pasterns short and nearly upright, toes short and firm, enabling the animal to carry its weight with ease..... 10
 Objections—Legs too long, slim, crooked, coarse or short; weak muscles above hock and knee bone large and coarse and legs without taper, pasterns too long to correspond with length of leg, too crooked or too slender; feet long, slim and weak; toes spreading, too long, crooked or turned up.
13. **Tail**—Medium length, slightly curled..... 1
 Objections—Coarse, long, clumsy, swinging like a pendulum.
14. **Coat**—Fine, straight, smooth..... 2
 Objections—Bristles or swirls, coarse or curly.
15. **Color**—Black, with exception of white belt encircling body, including fore legs..... 2
 Objections—White running high on hind legs, or extending more than one-fourth length of body or solid black.
16. **Size**—Large for conditions; boar two years and over, 450; sow, same age, 400; eighteen months boar, 350; sow, 325; twelve months boar or sow, 300; six months, both sexes, 140..... 5
17. **Action and Style**—Active, vigorous, quick and graceful; style, attractive and spirited..... 4
 Objections—Dull, sluggish and clumsy.
18. **Conditions**—Healthy, skin free from all defects, flesh evenly laid on and smooth and firm, not patchy, and devoid of all excess of grossness..... 4
 Objections—Skin scurfy, scaly, mangy, or otherwise unhealthy, hair harsh, dwarfed or cramped, not growthy.
19. **Disposition**—Docile, quiet and easily handled..... 3
 Objections—Cross, restless, vicious or with no ambition.

DUROC-JERSEY SWINE.

SCALE OF POINTS—AMERICAN DUROC-JERSEY RECORD.

Similar to the description prepared by the National
Duroc Jersey Record Association.

	Counts
Head and Face	4
Eyes	2
Ears	2
Neck	2
Jowl	2
Shoulders	6
Chest	12
Back and Loin	15
Sides and Ribs	8
Belly and Flank	6
Hams and Rumps	10
Legs and Feet	10
Tail	1
Coat	2
Color	2
Size	5
Action and Style	4
Condition	4
Disposition	3
Total	100

DISQUALIFICATIONS.

Form.—Ears standing erect; small cramped chest, and crease back of shoulders and over back so as to cause a depression in the back easily noticed; seriously deformed legs, or badly broken down feet.

Size.—Very small, or not two-thirds large enough as given by the standard.

Score.—Less than fifty points.

Pedigree.—Not eligible to record.

DETAILED DESCRIPTION.

Head and Face.—Head small in proportion to size of body; wide between eyes; face nicely dished (about half way between a Poland-China and a Berkshire) and tapering well down to the nose; surface smooth and even.

Objections.—Large and coarse; narrow between the eyes; face straight; crooked nose, or too much dished.

Eyes.—Lively, bright and prominent.

Objections.—Dull, weak and obscure.

Ears.—Medium; moderately thin; pointing forward, downward and slightly outward, carrying a slight curve, attached to head very neatly.

Objections.—Very large; nearly round; too thick; swinging or flabby; not of same size; different position and not under control of animal.

Neck.—Short, thick and very deep and slightly arching.

Objections.—Long, shallow and thin.

Jowl.—Broad, full and neat; carrying fullness back to point of shoulders and on a line with breast bone.

Objections.—Too large, loose and flabby; small thin and wedging.

Shoulders.—Moderately broad; very deep and full; carrying thickness well down and not extending above line of back.

Objections.—Small; thin; shallow; extending above line of back. Boars under one year old heavily shielded

Chest.—Large; very deep; filled full behind shoulders; breast bone extending well forward so as to be readily seen.

Objections.—Flat; shallow, or not extending well down between fore legs.

Back and Loin.—Back medium in breadth; straight or slightly arching; carrying even width from shoulder to ham; surface even and smooth.

Objections.—Narrow; crease behind shoulders; swayed or hump backed.

Sides and Ribs.—Sides very deep; medium in length; level between shoulders and hams and carrying out full down to line of belly. Ribs long, strong and sprung in proportion to width of shoulders and hams.

Objections.—Flabby, creased, shallow and not carrying proper width from top to bottom.

Belly and Flank.—Straight and full and carrying well out to line of sides. Flank well down to lower line of sides.

Objections.—Narrow; tucked up or drawn in; sagging or flabby.

Hams and Rump.—Broad, full and well let down to the hock; buttock full and coming nearly down and filling full between hocks. Rump should have a round slope, from loin to root of tail; same width as back and well filled out around tail.

Objections.—Ham narrow; short; thin; not projecting well down to hock; cut up too high in crotch. Rump narrow; flat or peaked at root of tail; too steep.

Legs and Feet.—Medium size and length; straight; nicely tapered; wide apart and well set under the body; pasterns short and strong. Feet short, firm and tough.

Objections.—Legs extremely long, or very short; slim; coarse; crooked: legs as large below knee and hock as above; set too close together; hocks turned in or out of straight line. Feet, hoofs long; slim and weak; toes spreading or crooked.

Tail.—Medium; large at base and nicely tapering and rather bushy at end.

Objections.—Extremely heavy; too long and ropy.

Coat.—Moderately thick and fine; straight, smooth and covering the body well.

Objections.—Too many bristles; hair coarse, harsh and rough; wavy or curly; swirls, or not evenly laid over the body.

Color.—Cherry red without other admixtures.

Objections.—Very dark red or shading brown; very pale or light red; black spots over the body; black flecks on belly and legs not desired but admissible.

Size.—Large for age and condition. Boars two years old and over should weigh 600 pounds; sow same age and condition,

500 pounds. Boar eighteen months, 475 pounds; sow, 400 pounds. Boar twelve months, 350 pounds; sow, 300 pounds. Boar and scw pigs six months, 150 pounds. The figures are for animals in a fair show condition.

Objections.—Rough and coarse and lacking in feeding qualities.

Action and Style.—Action vigorous and animated. Style free and easy.

Objections.—Dull or stupid; awkward and wabbling. In boars testicles not easily seen nor of same size or carriage; too large or only one showing.

Condition.—Healthy; skin free from scurf, scales, sores, and mange; flesh evenly laid over the entire body and free from any lumps.

Objections.—Unhealthy; scurfy; scaly; sores; mange; too fat for breeding purposes; hair harsh and standing up; poor feeders.

Disposition.—Very quiet and gentle; easily handled or driven.

Objections.—Wild, vicious or stubborn.

VICTORIA SWINE.

SCALE OF POINTS ADOPTED BY VICTORIA SWINE BREEDERS
ASSOCIATION. AMERICAN VICTORIA SWINE RECORD,
VOL. I, 1887.

The description that follows is similar to that adopted by the National Association of Expert Judges.		Count
Color —White, with occasional dark spots in the skin		2
Head —Small, broad and face medium dished		3
Ears —Fine, pointing forward		2
Jowl —Medium size and neat		1
Neck —Short, full and well arched		3
Shoulders —Broad and deep		7
Girth Around Heart		6
Back —Straight, broad and level		12
Sides —Deep and full		6
Ribs —Well sprung		7
Loin —Broad and strong		12
Flank —Well let down		2
Ham —Broad, full and deep, without loose fat		12
Tail —Medium fine and curled		2
Legs —Fine and straight		3
Feet —Small		3
Hair —Fine and silky, free from bristles		3
Action —Easy and graceful		4
Symmetry —Adaptation of the several parts to each other.		10
Total		100

Detailed description of Victoria swine as adopted by the Victoria Swine Breeders' Association at their annual meeting, November, 1888, as an aid to judges at fairs in place of the score card.

Color.—White, with occasional dark spot in the skin.

Head and Face.—Head rather small and neat. Face medium dished and smooth; wide between eyes, tapering from eyes to nose.

Eyes.—Medium size, prominent, bright; clear and lively in young, and quiet expression in aged animals.

Neck.—Medium wide, deep, short, well arched and full at top.

Jowl.—Medium full, nicely rounded, neat and free from loose, flabby fat.

Shoulders.—Broad, deep and full, not higher than the line of back, and as wide on top as back.

Chest.—Large, wide, deep and roomy, with large girth back of shoulders.

Back and Loin.—Broad, straight or slightly arched, carrying same width from shoulders to ham; level and full at loin; sometimes higher at hip than at shoulder.

Ribs and Sides.—Ribs well sprung at top; strong and firm; sides deep, full, smooth and firm; free from creases.

Belly and Flank.—Wide; straight and full; as low or slightly lower at flank than at chest. Flank full and nearly even with sides.

Hams and Rump.—Hams long; full and wide; nicely rounded; trim and free from loose fat. Buttocks large and full; reaching well down toward hocks. Rump, slightly sloped from end of loin to root of tail.

Legs and Feet.—Legs short; set well apart and firm; wide above knee and hock tapering below. Feet firm and standing well up on toes.

Tail.—Small; fine and tapering; nicely curled.

Coat.—Fine and silky; evenly covering the body.

Size.—Boars two years old and over when in good condition should weigh not less than 500 pounds; sow same age and condition, 450 pounds. Boars twelve months old not less than 300 pounds; sows in good flesh, 300 pounds. Pigs 5 to 6 months old, 140 to 160 pounds.

Action.—Easy and graceful, but quiet.

Condition.—Healthy; skin clean, and white or pink in color; free from scurf; flesh firm and evenly laid on.

Disposition.—Quiet and gentle.

DISQUALIFICATIONS.

Color.—Other than white or creamy white, with occasional dark spots in skin.

Form.—Crooked jaws or deformed face; crooked or deformed legs; large, coarse, drooping ears.

Condition.—Excessive fatness; barrenness; deformity in any part of body.

Pedigree.—Not eligible for record.

CHESHIRE SWINE.

STANDARD OF EXCELLENCE. THE CHESHIRE HERD BOOK.
VOL. I, 1889.

Head.—Short to medium in length, short in proportion to length of body, face somewhat dished and wide between the eyes; ears small, erect, in old animals often slightly pointing forward; neck, short; shoulders broad and full; hips broad body long, broad and deep; hams, broad, nearly straight with back and running well down towards hock; legs small and slim, set well apart and supporting the body on the toes tail, small and slim; hair fine, medium in thickness and quantity; color, white, a few blue spots in skin not to disqualify but objectionable; when grown and well fattened should dress from 400 to 600 pounds.

SCALE OF POINTS.

Cheshires must be shown in fair breeding condition.	
Animals too fleshy to meet this requirement must be docked ten points.	
Head. —Short to medium in length, short in proportion to length of body ..	Counts
Face. —Somewhat dished and wide between the eyes.....	8
Jowl. —Medium in fullness	8
Ears. —Small, fine, erect; in old animals often pointing forward ..	3
Neck. —Short and broad	5
Shoulders. —Broad, full and deep	3
Girth. —Size of body around heart	6
Back. —Long, broad and straight nearly to root of tail....	8
Side. —Deep and full, nearly straight on bottom line.....	10
Flank. —Well back and low down, making flank girth nearly equal to heart girth ..	7
Hams. —Broad, nearly straight with back and running well down towards hock	3
Legs. —Small and slim, set well apart and supporting body on toes	10
Tail. —Small, slim and tapering	3
Hair. —Fine, medium in thickness and quality	3
Color. —White, any other colored hair to disqualify.....	2
Skin. —Thin and pliable; small blue spots objectionable, but allowable	3
Symmetry. —Animal well proportioned, handsome, stylish..	8
Total	100

YORKSHIRE SWINE: LARGE WHITE.

STANDARD OF EXCELLENCE PUBLISHED IN THE NATIONAL
PIG BREEDERS ASSOCIATION HERD BOOK, NOTTING-

HAM, ENG., VOL. XII, 1896.

Color.—White, free from black hairs, and as far as possible from blue spots on the skin.

Head.—Moderately long, face slightly dished, snout broad, not too much turned up, jowl not too heavy, wide between ears.

Ears.—Long, thin, slightly inclined forward, and fringed with fine hair.

Neck.—Long, and proportionately full to the shoulders.

Chest.—Wide and deep.

Shoulders.—Level across the top, not too wide, free from coarseness.

Legs.—Straight and well set, level with the outside of the body, with flat bone.

Pasterns.—Short and springy.

Feet.—Strong, even and wide.

Back.—Long, level and wide from neck to rump.

Loin.—Broad.

Tail.—Set high, stout and long, but not coarse, with tassels of fine hair.

Sides.—Deep.

Ribs.—Well sprung.

Belly.—Full, but not flabby, with straight underline.

Flank.—Thick and well let down.

Quarters.—Long and wide.

Hams.—Broad, full and deep to hocks

Coat.—Long and moderately fine.

Action.—Firm and free

Skin.—Not too thick, quite free from wrinkles. Large bred pigs do not fully develop their points until some months old. the pig at five months often proving at a year or fifteen months a much better animal than could be anticipated at the earlier age and vice versa, but size and quality are most important.

Objections.—Black hairs, black spots, a curly coat, a coarse mane, short snout, in-bent knees, hollowness at back of shoulders.

MIDDLE WHITE SWINE.

STANDARD OF EXCELLENCE ADOPTED BY THE NATIONAL PIG
BREEDERS ASSOCIATION OF GREAT BRITAIN.

Color.—White, free from black hairs and blue spots on the skin.

Head.—Moderately short, face dished, snout broad and turned up, jowl full, wide between the ears.

Ears.—Fairly large, carried erect and fringed with fine hair.

Neck.—Medium length, proportionately full to the shoulders.

Chest.—Wide and deep.

Shoulders.—Level across the top, moderately wide, free from coarseness.

Leg.—Straight and well set, level with outside of the body with fine bone.

Pasterns.—Short and springy.

Feet.—Strong, even and wide.

Back.—Long, level and wide from rump.

Loin.—Broad.

Tail.—Set high, moderate length, but not coarse, with tassel of fine hair.

Sides.—Deep.

Ribs.—Well sprung.

Belly.—Full, but not flabby and straight underline.

Flank.—Thick and well let down.

Quarters.—Long and wide.

Hams.—Broad, full and deep to hocks.

Coat.—Long, fine and silky.

Action.—Firm and free.

Skin.—Fine and quite free from wrinkles.

Objections.—Black hairs, black or blue spots, a coarse mane, in-bent knees, hollowness of shoulders, wrinkled skin.

SMALL WHITE SWINE.

STANDARD OF EXCELLENCE ADOPTED BY 'THE NATIONAL PIG
BREEDERS ASSOCIATION OF GREAT BRITAIN.

Color.—Pure white.

Head.—Very short and dished, snout broad and turned up, jowl very full, broad between the ears.

Ears.—Small, short and erect.

Neck.—Short and thick.

Chest.—Full and broad.

Shoulders.—Full and wide.

Legs.—Short, set well outside the body, fine bone.

Pasterns.—Short and springy.

Feet.—Small.

Back.—Broad, level and straight.

Loin.—Wide.

Tail.—High set, small and fine, with tassel of fine hair.

Girth.—As deep as possible consistent with length.

Sides.—Deep.

Ribs.—Well sprung.

Belly.—Deep and near ground.

Flank.—Thick and well let down.

Quarters.—Wide and full.

Hams.—Deep, wide, full, and well rounded.

Coat.—Fine and silky.

Action.—Free and firm.

Skin.—Fine, quite free from wrinkles. The general appearance of animals, small, thick and compact when compared with other breeds.

Objections.—Black hairs, black or blue spots, coarse hair, in-bent knees, hollowness at back of shoulder, wrinkled skin.

SMALL YORKSHIRE SWINE.

SCALE OF POINTS—AMERICAN SMALL YORKSHIRE SWINE
RECORD, VOLUME II, 1890.

		Smaller the better.....	2
		Nose, shorter the better.....	5
		Dish, greater the better.....	3
Head	.....15	Width between ears, greater, the better	3
		Ears, small, thin, erect, more so the better (may be pricked forward, not lopped)	2
		Top line, straighter the better, from shoulder to tail.....	5
		Belly line, the more level the better.	5
		Girth, in excess of length, more the better, if not more than ten per cent...	5
Trunk	.....35	Depth, greater the better.....	5
		Width, greater and evenner the better, from shoulder to ham.....	5
		Loin, broader the better.....	5
		Flank, deeper and fuller the better...	5
		Length, longer the better.....	10
Hams	.....25	Breadth, broader the better.....	10
		Thickness, greater the better.....	5
		Length, longer the better.....	2
Shoulders	... 5	Breadth, broader the better.....	3
		Thickness	0
		Shorter the better.....	3
Legs	..... 5	Straighter the better.....	2
		Smooth, flexible, fine; more so the better	5
		Must not be too thin, nor ridgy and coarse, nor show discolored spots from old sores, not pale and ashy but healthy in color and free from eruption.	
Skin	..... 5		
		Evenner, finer and thicker the better.	5
Hair	.....	
		Symmetry and evidence of vigorous health	5
General appearance	..... 5		
		Total	100

DISCOUNTS AND DISQUALIFICATIONS.

Pedigree, lack of registration or ineligibility to be registered disqualifies.....	100
Sterility, inability to produce offspring disqualifies.	100
Deformity, any structural deformity or lack disqualifies..	100

Disease, any evidence of, or tendency to disease disqualifies.	100
Disease, scars of sores, discolored spots, eruptions, eczema, * etc.	5 to 25
Colored hair, disqualifies.	100
Colored spots, dark spots in skin	5 to 25
Size, inordinate size, with coarseness of bone or form.	10 to 50
Size, diminutive size.	5 to 25
Disposition, savage or fierce nature.	5 to 10

SUFFOLK SWINE.

SCALE OF POINTS ADOPTED BY THE AMERICAN SUFFOLK ASSOCIATION.

	Counts
Color. —White	2
Head. —Small, broad and face dished.....	3
Ears. —Fine, erect, slightly drooping with age.....	2
Jowl. —Full and neat.. ..	1
Neck. —Short, full and slightly arched.....	3
Shoulders. —Broad and deep.....	7
Girth Around Heart	6
Back. —Straight, broad, level.....	12
Sides. —Deep and full.....	6
Ribs. —Well sprung	7
Loin. —Broad and strong.....	12
Flank. —Well let down.....	2
Ham. —Broad, full, deep.....	12
Tail. —Medium, fine and curled.	2
Legs. —Fine, straight and tapering.....	3
Feet. —Small	3
Hair. —Fine and silky, free from bristles.....	3
Action. —Easy and graceful.....	4
Symmetry. —Adaptation of the several parts to each other	10
Total	100

TAMWORTH SWINE.

STANDARD OF EXCELLENCE ADOPTED BY THE NATIONAL PIG BREEDERS
ASSOCIATION OF GREAT BRITAIN AND THE AMERICAN
TAMWORTH SWINE RECORD ASSOCIATION.

Color—Golden red hair on a flesh colored skin, free from black.

Head—Fairly long, snout moderately long and quite straight, face slightly dished, wide between ears.

Ears—Rather large, with fine fringe, carried rigid and inclined slightly forward.

Neck—Fairly long and muscular, especially in boar.

Chest—Wide and deep.

Shoulders—Fine, slanting and well set.

Legs—Strong and shapely, with plenty of bone and set well outside body.

Pasterns—Strong and sloping.

Feet—Strong, and of fair size.

Back—Long and straight.

Loin—Strong and broad.

Tail—Set on high and well tasselled.

Sides—Long and deep.

Ribs—Well sprung and extending well up to flank.

Belly—Deep, with straight under line.

Flank—Full and well let down.

Quarters—Long, wide, and straight from hip to tail.

Hams—Broad and full, well let down to hocks.

Coat—Abundant, long, straight and fine.

Action—Firm and free.

Objections—Black hair, very light or ginger hair, curly coat, coarse mane, black spots on skin, slouch or drooping ears, short or turned up snout, heavy shoulders, wrinkled skin, in-bent knees, hollowness at back of shoulders.

The following is the Tamworth Scale of Points adopted by the English breeders:

Formation and setting on of fore legs.....	10
Formation and setting on of hind legs.....	10
Length and general conformation.....	10
Head, ears, jawl and snout.....	10
Breadth of neck.....	5
Breadth and depth of shoulders.....	10
Width of loin, depth of sides, springing of ribs.....	15
Depth and breadth of hams.....	10
Straightness of back....	5
Hair and quality of skin.....	5
Color	5
Fineness of bone	5

ACKNOWLEDGMENTS.

ACKNOWLEDGMENTS.

This book has been developed to its present form under influences that have been very favorable to it and the author feels that these should be fittingly acknowledged. From its inception, some ten years ago, these influences have been so encouraging that it becomes necessary to give tangible evidence of them, and consequently the work had to be published without any thought of filling the traditional "long-felt want" which is so frequently the source of authorship. Previous to attending the Ontario Agricultural College the writer had a very limited knowledge of any phase of live stock work but a deep love and active interest in animal life, centered chiefly on horses, made the instruction from such teachers as Prof. Wm. Brown, Dr. F. C. Grenside and Prof. J. W. Robertson, a genuine pleasure. After graduation, three years of editorial management of the Canadian Live Stock Journal offered unusual opportunities for analyzing the ideals of the best Canadian breeders, to whom unlimited appreciation is hereby tendered for a foundation which could hardly have been laid without more than usual co-operation from them. With the acceptance of the Chair of Animal Husbandry in the University of Wisconsin, a wider field was entered upon for deeper study and investigation. Stock judging was made a leading feature of the course, and with the development of ideas a new system of instruction was evolved. The writer is vastly indebted to Mr. R. B. Ogilvie, formerly proprietor of Blairgowrie Stock Farm, for not only directly assisting the development of this department at the University, but also for the results from frequent visits and conferences at Blairgowrie, through which a much stronger grasp of the essentials of horse judging was obtained. For many valuable observations on the qualities of draft horses the writer finds himself also greatly in the debt

of Mr. Alexander Galbraith. The influence of Hon. W. A. Jones, now Commissioner of Indian Affairs, was clearly felt on the development of this department of the University, for through him as chairman of the Farm Committee of the Board of Regents, the equipment for this work was materially uplifted with corresponding encouragement. Mr. George McKerrow liberally assisted the writer in his work and much advancement is due to him and others, including Messrs. George Harding and Son, the late Mr. M. W. Dunham, Ex-Governor Hoard, H. C. Taylor, John Gosling and M. J. Hoven, all of whom in more than one way gave material impetus to the movement.

It was at this time that the writer come under the inspiring influence of the late Mr. William Watson. It was a source of intense pleasure to see this experienced fitter and judge subject any of his loving friends, chiefly cattle and sheep, to his considerate inspection. Equally fair minded, another friend, William Lysaght, had this rare faculty of candid criticism even of his own, and to both of these men the writer owes more than he is able to acknowledge. After coming to Iowa, enlarged opportunities were entered upon for the pursuit of these studies. Prof. C. F. Curitts and Hon. James Wilson, present Secretary of Agriculture, had prepared the way with an equipment in live stock and other facilities of exceptional merit for the teaching of this subject. Continued association with the former has vastly deepened and widened the writer's interest and knowledge of this subject; for such must be the outcome of contact with a broad and fair minded judge of wide experience in American live stock show rings. One of the most effective sources of encouragement to the development of this line of teaching has been the support given the movement by the commission firm of Messrs. Clay, Robinson & Company, of the Union Stock yards, Chicago. By liberally donating prizes for the study of this subject in our colleges, this firm brought the attention of the practical man to it, as the latter realized that when a large firm stopped in its work to do this there must be something of genuine merit in the

movement. With such interest from outside sources and such direct associations is it any wonder that the subject should grow until it became a necessity to publish a book about it?

Other influences have been drawn on in studying this subject further. In earlier days the writer happened on one of the first numbers of the Breeders Gazette, containing an illustrated editorial on the points of horses. This emphasized the importance of the subject and at once started the note taking and the collection of photographs which seem essential features for a work like this. Since then the same source has been frequently drawn upon. The writer has also found it very desirable to keep in touch with the London Live Stock Journal, as well as many other publications along this line included in the American press. Among contemporary works, Capt. Hayes' "Points of the Horse," Goubaux and Barrier's "Exterior of the Horse," Underhill's "Driving for Pleasure" and many others have been consulted. To continue acknowledging all the sources of assistance to the writer, would require another volume but let it suffice to say—there are hundreds of American, Canadian and British breeders to whom he vividly recognizes his debt but feels utterly unable to adequately acknowledge it.

